00108563

THE
ASIATIC SOCIETY OF BOMBAY
TOWN HALL, BOMBAY-1.

Digitized with financial assistance from

Government of Maharashtra

on 01 February, 2020

Calcutta University Commission, 1917-19

REPORT

00108563

Volume VIII

Evidence and Documents

CLASSIFIED REPLIES TO THE COMMISSIONERS' QUESTIONS 1—3

1. Defects of the existing system of university education.
2. Essentials of the best kind of university training.
3. Resources of Calcutta as a seat of learning.

108563

CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
1919

Calcutta University Commission

WRITTEN ANSWERS

TO

Question 1.—Defects of the existing system of university education.

Question 2.—Essentials of the best kind of university training.

Question 3.—Resources of Calcutta as a seat of learning.

Name and designation of correspondent.	*Question answered.*	*Page.*
Association of University Women in India, Calcutta Branch, Calcutta.	1 2	12 213
Aziz, Maulvi Abdul, Lecturer in Arabic and Persian, Dacca College, Dacca.	1 2 3	12 214 359
Bagchi, Dr. Haridas, M.A., Ph.D., Lecturer in Pure Mathematics, Calcutta University, Calcutta.	2	214
Banerjea, Hariprosanna, M.Sc., Lecturer in Pure Mathematics, Calcutta University, Calcutta.	1 2	13 214
Banerjea, J. R., M.A., B.L., Vice-Principal, Vidyasagar College, and Fellow, Calcutta University, Calcutta.	1 2 3	15 215 359
Banerjea, Dr. Pramathanath, M.A., D.Sc., Bar.-at-Law, Lecturer in Economics and Political Science, Calcutta University, Calcutta.	1 2 3	15 216 360
Banerjea, Surendra Nath, M.A., Professor of Chemistry, Ripon College, Calcutta.	2	216
Banerjee, Gauranganath, M.A., F.R.A.S., M.R.A.S., Premchand Roychand Scholar, Lecturer in History, Calcutta University, Calcutta.	1 2 3	16 219 360
Banerjee, Sir Gooroo Dass, Kt., M.A., D.L., Ph.D., Fellow, Calcutta University, Calcutta.	1 2 3	17 219 361
Banerjee, Jaygopal, M.A., Lecturer in English, Calcutta University, Calcutta.	1 2 3	18 220 361
Banerjee, Rai Kumudini Kanta, Bahadur, M.A., Principal, Rajshahi College, and Fellow, Calcutta University, Rajshahi.	1 2 3	19 221 362
Banerjee, M. N., B.A., M.R.C.S., Principal, Belgachia Medical College, and Fellow, Calcutta University, Calcutta.	1 2	20 221
Banerjee, Muraly Dhar, M.A., Professor of Sanskrit, Sanskrit College, and Lecturer in Sanskrit, Calcutta University, Calcutta.	1 2 3	20 221 362
Banerjee, Ravaneswar, B.A., B.T., Head Master, Hooghly Branch School, Chinsura.	1 2	20 222
Banerjee, Sasi Sekhar, B.A., Offg. Principal, Krishnath College, Berhampur.	1 2 3	20 222 362

Name and designation of correspondent.	*Question answered.*	*Page.*
Banerjee, Sudhansukumar, M.Sc., Lecturer in Applied Mathematics, Calcutta University, Dhakuria.	1	21
	2	222
	3	363
Banerjee, Upendra Nath, Member, British Indian Association, Calcutta.	1	21
	2	223
	3	363
Bar[illegible] Manmathanath, M.Sc., Lecturer in Experimental Psychology, University College of Science, Calcutta.	1	21
	2	223
	3	364
Banerji, The Hon'ble Justice Sir Pramada Charan, Kt., B.A., B.L., Puisne Judge, High Court, and Vice-Chancellor, University of Allahabad, Allahabad.	1	25
	2	223
	3	364
Banerji, Umacharan, M.A., Principal and Professor of Sanskrit and English, Burdwan Raj College, Joint Editor, *Sanskrita Bharati* and *Sanskrita Bharati Supplement*, and Vice-President, Bangiya Sahitya Parishad, Burdwan.	1	25
	2	224
	3	364
Bardaloi N. C., Vakil, Calcutta High Court, Gauhati.	1	25
	2	225
Bano[illegible] R., B.A., Offg. Principal, Presidency College, and Fellow, Calcutta University, Calcutta.	1	26
	2	225
Basu, Nalinimohan, M.Sc., Lecturer in Applied Mathematics, University College of Science, Calcutta.	1	28
	2	226
Basu, P., Professor of Economics, Holkar College, Indore.	2	226
Ba[illegible]i P. K., Bahadur, M.A., Second Inspector of Schools, [illegible]ca Division, Dacca.	2	227
Basu, Satyendra Nath, M.A., Principal, Victoria College, Comilla.	1	29
	2	227
	3	365
Bengal Landholders' Association, Calcutta.	1	29
	2	227
	3	365
Bengal National Chamber of Commerce, Calcutta.	1	29
	2	227
	3	365
Bethune College, Calcutta.—		
Bhattacharya, Krishnachandra, M.A., Premchand Roychand Scholar, Professor of Philosophy and Logic.	2	228
Chatterjee, Kumud Bandab, M.A., Additional Lecturer in Sanskrit.	2	228
Chowdhury, Benoy Kumar, M.A., Lecturer in History and Political Economy.	2	228
Dutt, Miss A. L., B.Sc., Principal.	1	30
	2	228

Name and designation of correspondent.	*Question answered.*	*Page*
Bethune College, Calcutta—*contd.*		
Mukerjee, Bijoy Gopal, M.A., Professor of English.	2	228
Roy, Debendra Nath, M.A., Lecturer in Sanskrit.	1	30
	2	228
	3	366
Sen, Pares Nath, B.A., Professor of English.	2	228
Sen, Probodh Chandra, M.A., B.T., Temporary Lecturer in Mathematics.	2	228
Bhaduri, Rai Indu Bhusan, Bahadur, B.L., Pleader, Krishnagar.	1	30
	2	229
Bhaduri, Jyotibhushan, M.A., F.C.S., Premchand Roychand Scholar, Professor of Chemistry, Presidency College, Calcutta.	1	30
	2	229
	3	366
Bhandarkar, D. R., M.A., Carmichael Professor of Ancient Indian History and Culture, and Fellow, Calcutta University, Calcutta.	1	31
	2	229
	3	366
Bhandarkar, Sir R. G., M.A., Ph.D., LL.D., K.C.I.E., Poona.	1	31
	2	229
Bhattacharjee, Mohini Mohan, M.A., Lecturer in English, Calcutta University, Calcutta.	1	31
	2	229
Bhattacharya, Brindaban C., M.A., Professor of Bengali, Carmichael College, Rangpur.	3	366
Bhattacharya, Jogendranath, M.A., B.T., Head Master, Hooghly Collegiate School, Chinsura.	1	34
	2	230
Bhattacharya, Krishnachandra, M.A., Premchand Roychand Scholar, Professor of Philosophy and Logic, Bethune College, and Lecturer in Mental and Moral Philosophy, Calcutta University, Serampore.	2	231
Bhattacharya, Nibaranchandra, M.A., Professor of Physiology, Presidency College, and Lecturer in Physiology, Calcutta University, Calcutta.	1	34
Bhattacharyya, Baikuntha Nath, B.A., Head Master, Government High School, Sylhet.	1	38
	2	231
Bhattacharyya, Haridas, M.A., B.L., Lecturer in Philosophy and Experimental Psychology, Calcutta University, and Honorary Professor of Philosophy and Logic, Scottish Churches College, Calcutta.	1	38
	2	232
	3	367
Bhattacharyya, Mahamahopadhyaya Kaliprasanna, M.A., Lecturer in Sanskrit, Calcutta University, Calcutta.	1	38
	2	233

Name and designation of correspondent.	*Question answered.*	*Page.*
Bhowal, Govinda Chandra, B.L., Vakil, Judge's Court, Dacca.	1	38
	2	234
	3	368
Biss, E. E., Inspector of Schools, Dacca Division, and Fellow, Calcutta University, Dacca.	1	39
	2	234
Bisvas, Rai Dinanath, Bahadur, B.L., Pleader and Secretary, Edward College, Pabna.	1	39
	2	235
Biswas, Charu Chandra, M.A., B.L., Joint Secretary, Governing Body, South Suburban College, Vakil, High Court, Professor of Hindu Law, University Law College, and Fellow, Calcutta University, Calcutta.	1	39
	2	235
	3	369
Biswas, Saratlal, M.Sc., Assistant Professor of Geology, Calcutta University, Calcutta.	1	40
	2	235
Bompas, The Hon'ble Mr. C. H., Bar.-at-Law, I.C.S., Chairman, Calcutta Improvement Trust, and Additional Member, Bengal Legislative Council, Calcutta.	1	41
	2	235
Borooah, Jnanadabhiram, Bar.-at-Law, Principal, Earle Law College, Gauhati.	1	42
	2	236
	3	369
Bose, B. C., M.A., Professor of English, Presidency College, Calcutta.	1	42
	2	236
Bose, Rai Chunilal, Bahadur, I.S.O., M.B., F.C.S., Offg. Chemical Examiner to the Government of Bengal, Professor of Chemistry, Medical College, and Fellow, Calcutta University, Calcutta.	1	42
	2	237
	3	369
Bose, G. C., M.A., M.R.A.C., M.R.A.S., F.H.A.S., Principal, Bangabasi College, and Fellow, Calcutta University, Calcutta.	1	42
	2	237
Bose, Harakanta, B.A., Head Master, Hare School, Calcutta.	1	43
	2	237
	3	369
Bose, Sir J. C., Kt., C.S.I., C.I.E., M.A., D.Sc., Calcutta.	1	43
	3	370
Bose, J. M., M.A., B.Sc., Bar.-at-Law, Professor of Mathematics, Presidency College, Calcutta.	1	43
	2	238
Bose, Khudi Ram, B.A., Principal, Central College, Calcutta	1	44
	2	238
Bose, Miss Mrinalini, Assistant Inspectress of Schools, Rajshahi Division, Jalpaiguri.	1	44
	2	239
Bose, Radhikanath, M.A., Principal, Edward College, Pabna.	2	239
Bottomley, J. M., B.A., Principal, Hooghly College, Chinsura.	1	44

Name and designation of correspondent.	*Question answered.*	*Page.*
Brown, Rev. A. E., M.A., B.Sc., Principal, Wesleyan Mission College, and Superintendent, Boys' Technical School, Bankura.	1 2	44 241
Brown, Arthur, M.A., LL.B., F.R.H.S., Bar.-at-Law, Professor of Economics and Political Philosophy, Cotton College, and Lecturer in Roman Law, Real Property, etc., Earle Law College, Gauhati.	3	370
Burdwan, Maharajadhiraja Bahadur of. Please see Mahtab, The Hon'ble Sir Bijay Chand.		
Cameron, M. B., M.A., B.Sc., Principal, Canning College, Lucknow.	1 2	45 241
Chakravarti, Brajalal, M.A., B.L., Secretary, Hindu Academy, Daulatpur.	1 2 3	45 244 370
Chakravarti, Chintaharan, B.A., Head Master, Collegiate School, Rajshahi.	1 2	46 245
Chakravarti, Chinta Haran, M.A., B.T., Offg. Principal, David Hare Training College, Calcutta.	1 2	46 245
Chakravarti, Rai Mon Mohan, Bahadur, M.A., B.L., F.A.S.B., M.R.A.S., Deputy Collector, Comilla.	1 2 3	47 245 370
Chakravarty, Niranjan Prasad, M.A., Lecturer in Sanskrit, Calcutta University, Calcutta.	2 3	245 371
Chanda, The Hon'ble Mr. Kamini Kumar, M.A., B.L., Vakil, High Court, Additional Member, Imperial Legislative Council, and Fellow, Calcutta University, Calcutta.	1 2 3	47 246 372
Chatterjee, The Hon'ble Mr. A. C., I.C.S., On special duty with the United Provinces Government, Lucknow.	1 2 3	47 246 372
Chatterjee, Rai Lalitmohan, Bahadur, M.A., Principal, Jagannath College, and Fellow, Calcutta University, Dacca.	1 2 3	47 247 372
Chatterjee, P. K., B.Sc., B.A., Vice-Principal and Professor of Economics, Carmichael College, Rangpur.	2	247
Chatterjee, Pramathanath, M.A., Second Inspector of Schools, Burdwan Division, Chinsura.	1 2	48 248
Chatterjee, Ramananda, M.A., Editor, *The Modern Review* and *The Prabasi*, and Honorary Fellow, University of Allahabad, Calcutta.	1 2	48 248
Chatterjee, Santosh Kumar, M.A., Professor of History and Politics, Rajshahi College, Rajshahi.	1 2	52 249

Name and designation of correspondent.	*Question answered.*	*Page*
Chatterjee, Rai Bâhadur Sarat Chandra, B.L., Government Pleader, Rangpur.	1 2 3	53 249 373
Chatterjee, Satis Chandra, M.A., Lecurer in Mental and Moral Philosophy, Calcutta University, Calcutta.	1 2	54 249
Chatterjee, Sris Chandra, B.L., Pleader, Dacca.	1 2	54 250
Chatterjee, Suniti Kumar, M.A., Premchand Roychand Scholar, Honorary Librarian, Calcutta University Institute, Member, Executive Committee of the Bangiya Sahitya Parishad, and Lecturer in English, Calcutta University, Calcutta.	1 2 3	55 250 373
Chatterji, Mohini Mohan, M.A., B.L., Attorney-at-Law, Calcutta.	1 2	55 250
Chaudhuri, The Hon'ble Justice Sir Asutosh, M.A., Bar.-at-Law, Puisne Judge, High Court, Calcutta.	1 2 3	56 251 373
Chaudhuri, Bhuban Mohan, B.A., Head Master, Zilla School, Pabna.	1 2 3	56 251 374
Chaudhuri, Hem Chandra Ray, M.A., Lecturer in History, Calcutta University, Calcutta.	1 2 3	56 251 374
Chaudhuri, The Hon'ble Babu Kishori Mohan, M.A., B.L., Additional Member, Bengal Legislative Council, and Honorary Secretary, Rajshahi Association, Rajshahi.	1 2 3	57 251 374
Chaudhury, The Hon'ble Babu Brojendra Kishore Roy, Additional Member, Bengal Legislative Council, and Zamindar, Mymensingh.	1 2	57 252
Chaudhury, The Hon'ble Nawab Syed Nawabaly, Khan Bahadur, C.I.E., Additional Member, Imperial Legislative Council, and Fellow, Calcutta University, Calcutta.	1 2	57 252
Choudhury, Rai Yatindra Nath, M.A., B.L., Zamindar, Baranagore.	1 2 3	58 253 375
Chowdhuri, Dhirendranath, M.A., Professor of Logic, Edward College, Pabna.	2	253
Cocks, S. W., M.A., Director of Public Instruction, Burma, and Fellow, Calcutta University, Rangoon.	1 2	63 254
Coleman, Dr. Leslie, C., M.A., Ph.D., Director of Agriculture in Mysore, Bangalore.	1 2	64 254

Name and designation of correspondent.	*Question answered.*	*Page.*
Cotter, G. de P., B.A., F.G.S., Professor of Geology, Presidency College, Calcutta.	2	348
Covernton, The Hon'ble Mr. J. G., M.A., C.I.E., Director of Public Instruction, Bombay Presidency, Additional Member, Bombay Legislative Council, and Fellow, Bombay University, Bombay.	1 2	65 255
Crohan, Revd. Father F., S.J., Rector, St. Xavier's College, and Fellow, Calcutta University, Calcutta.	1 2	65 255
Cullis, Dr. C. E., M.A., Ph.D., Hardinge Professor of Mathematics, and Fellow, Calcutta University, Calcutta.	1 2	65 255
Cunningham, The Hon'ble Mr. J. R., M.A., Director of Public Instruction, Assam, Additional Member, Assam Legislative Council, and Fellow, Calcutta University, Shillong.	1 2	66 256
Das, Rai Bhupatinath, Bahadur, M.A., B.Sc., Professor of Chemistry, Dacca College, and Fellow, Calcutta University, Dacca.	1 2 3	66 256 375
Das, Bhusan Chandra, M.A., Professor of English, Krishnath College, Berhampur.	1	66
Das, Dr. Kedarnath, C.I.E., M.D., Teacher of Midwifery, Campbell Medical School, and Fellow, Calcutta University, Calcutta.	1 2 3	66 257 375
Das, Saradaprasanna, M.A., Professor of Mathematics, Presidency College, and Lecturer in Mixed Mathematics, Calcutta University, Calcutta.	1 2	66 257
Das Gupta, Hem Chandra, M.A., F.G.S., Demonstrator in Geology, Presidency College, and Lecturer in Geology, Calcutta University, Calcutta.	1 2 3	67 257 376
Das Gupta, Karuna Kanta, B.A., Head Master, Collegiate School, Gauhati.	2	258
Das Gupta, Surendranath, M.A., Professor of Sanskrit, Chittagong College, Chittagong.	1 2 3	68 258 377
Datta, A. C., B.A., Principal, Murarichand College, and Fellow, Calcutta University, Sylhet.	2 3	259 378
Datta, Bibhutibhuson, M.Sc., Lecturer in Applied Mathematics, Calcutta University, Calcutta.	1 2	69 260
De, Har Mohun, B.A., Head Master, Government Zilla School, Mymensingh.	2	262
De, Satischandra, M.A., Offg. Senior Professor of English Literature, Dacca College, Dacca.	1 2 3	70 262 379

Name and designation of correspondent.	*Question answered.*	*Page.*
De, Sushil Kumar, M.A., Lecturer in English, Calcutta University, Calcutta.	1	70
	2	262
	3	379
Dey, B. B., M.Sc., D.I.C., F.I.C., F.C.S., Premchand Roychand Scholar, Offg. Professor of Chemistry, Presidency College, Calcutta.	1	30
	2	229
	3	366
Dey, Baroda Prosaud, B.L., Chairman, Serampore Municipality and Honorary Secretary, Serampore Union Institution, Serampore.	1	74
	2	264
	3	380
Dey, N. N., M.A., B.Sc., Professor of Physics, Ripon College, Editor, *The Collegian*, Calcutta.	1	74
	2	264
	3	380
Dhar, Rai Sahib Bihari Lal, Retired Deputy Inspector of Schools, Dacca.	2	264
Dhar, Sasindra Chandra, M.Sc., Lecturer in Pure Mathematics, Calcutta University, Calcutta.	3	381
D'Souza, P. G., B.A., B.L., Secretary to the Government of His Highness the Maharaja of Mysore, Departments of Education and Agriculture, Mysore.	1	75
	2	265
	3	381
Dunn, S. G., M.A., Professor of English Literature, Muir Central College, and Fellow, University of Allahabad, Allahabad.	1	76
Dunnicliff, Horace B., M.A., B.Sc., F.C.S., Professor of Chemistry, Government College, Lahore.	1	76
	2	265
Dutt, Bamapada, Vakil, and Legal Adviser to the Hon'ble the Maharajah of Kasimbazar, Berhampur.	1	77
	2	265
Dutt, Rebati Raman, M.A., Deputy Magistrate and Deputy Collector, Bakargunge.	1	77
	2	265
	3	381
Dutta, Bidhu Bhusan, M.A., Professor of Chemistry, Presidency College, Calcutta.	1	30
	2	229
	3	366
Dutta, Promode Chandra, B.A., B.L., Vakil, Calcutta High Court, and Government Pleader, Sylhet.	1	79
	2	267
	3	382
Dutta, Rabindra Mohan, M.A., Lecturer in English, Calcutta University, Calcutta.	1	79
	2	267
	3	382
European Association, Calcutta.	2	267
Fawcus, G. E., M.A., Director of Public Instruction, Bihar and Orissa, and Fellow, Patna University, Ranchi.	2	268

Name and designation of correspondent.	*Question answered.*	*Page.*
Forrester, Rev. J. C., M.A., Head of the Dublin University Mission, and Fellow, Patna University, Hazaribagh.	1	81
Ganguli, Surendra Mohan, M.Sc., Premchand Roychand Scholar, Lecturer in Pure Mathematics, Calcutta University, Calcutta.	1 2	82 268
Ganguli, Syamacharan, B.A. Honorary Fellow, Calcutta University, Calcutta.	1 2	83 268
Geddes, Patrick, Professor of Botany, University College, Dundee, St. Andrew's University, C/o The Durbar, Indore.	1 2 3	83 268 382
Ghosa, Pratapcandra, B.A., Government Pensioner, Vindhyacal, Mirzapur.	1 2 3	84 268 383
Ghose, The Hon'ble Rai Debender Chunder, Bahadur, Additional Member, Bengal Legislative Council, Calcutta.	2	269
Ghose, Sir Rash Behary, Kt., C.S.I., C.I.E., M.A., D.L., Ph.D., Vakil, High Court, Fellow, Calcutta University, Calcutta.	2 3	269 383
Ghosh, Dr. B. N., D.Sc., Senior Professor of Chemistry, Cotton College, Gauhati.	2	269
Ghosh, Bimal Chandra, M.A., M.B., B.C., Professor of Physics, Vidyasagar College, Professor of Physiology, Belgachia Medical College, and Lecturer in Philosophy and Psychology, Calcutta University, Calcutta.	1 2 3	84 269 383
Ghosh, Devaprasad, M.A., Professor of Mathematics, Ripon College, Calcutta.	2	270
Ghosh, Dr. Jajneswar, M.A., Ph.D., Principal, Ananda Mohan College, Mymensingh.	1 2 3	84 271 384
Ghosh, Jnanchandra, M.A., Inspector of Colleges, and Fellow, Calcutta University, Calcutta.	1 2 3	86 272 385
Ghosh, Jnanendra Chandra, M.Sc., Lecturer in Physical Chemistry, University College of Science, Calcutta.	2 3	272 385
Ghosh, Rai Bahadur Nisi Kanta, B.L., Pleader, Mymensingh.	1 2 3	87 273 385
Gilchrist, R. N., M.A., F.R.E.S., Principal, Krishnagar College, and Fellow, Calcutta University, Krishnagar.	1 2 3	87 273 385
Goswami, Bhagabat Kumar, Sastri, M.A., Professor of Sanskrit, Hooghly College, Chinsura.	1 2 3	91 275 386

Name and designation of correspondent.	*Question answered.*	*Page.*
Goswami, Rai Sahib Bidhubhusan, M.A., Professor of Sanskrit, Dacca College, Superintendent, Dacca College Hostel, and Fellow, Calcutta University, Dacca.	1 2 3	92 276 386
Goswamy, Haridas, Head Master, E. I. Ry. High English School, Asansol.	1 2	92 276
Gray, Dr. J. Henry, M.D., M.P.E., Secretary to Physical Department of National Council, Young Men's Christian Association (India and Ceylon), Calcutta.	1 2	93 277
Griffith, W. E., M.A., Inspector of Schools, Burdwan Division, and Fellow, Calcutta University, Chinsura.	1	93
Guha, Jatindra Chandra, M.A., Professor of English, Rajshahi College, Rajshahi.	1 2	94 277
Guha, Jites Chandra, M.A., Professor of English, Midnapore College (at present Professor of English, Vidyasagar College, Calcutta).	1 3	95 387
Guha, Rajanikanta, M.A., Lecturer in English, Calcutta University, Calcutta.	1 2 3	96 277 387
Gupta, Amrita Lal, M.A., B.T., Senior Teacher of History and English, Hindu School, Calcutta.	1 2 3	97 278 387
Gupta, Bipin Behari, M.A., Professor of History, Ripon College, Calcutta.	1 2 3	97 278 388
Gupta, Manoranjan, M.Sc., Lecturer in Pure Mathematics, Calcutta University, Calcutta.	1	98
Gupta, Umes Chandra, B.L., Pleader, and President, Pleaders' Library, Rangpur.	1 2	100 279
Haldar, Dr. Hiralal, M.A., Ph.D., Lecturer in Philosophy, and Fellow, Calcutta University, Calcutta.	1 2 3	100 279 388
Haldar, Umes Chandra, M.A., B.T., Head Master, Zilla School, Rangpur.	1 2 3	100 280 389
Hamilton, C. J., M.A., Minto Professor of Economics, and Fellow, Calcutta University, Calcutta.	1 2 3	100 280 389
Harley, A. H., M.A., Principal, The Madrassah, and Fellow, Calcutta University, Calcutta.	1 2 3	104 281 391

Name and designation of correspondent.	*Question answered.*	*Page.*
Hay, Dr. Alfred, D.Sc., M.I.E.E., Professor of Electrical Technology, Indian Institute of Science, Bangalore.	2	282
Hazra, Jogendra Nath, M.A., Principal, Midnapore College, Midnapore.	1 2	105 282
Holland, Rev. W. E. S., M.A., Principal, St. Paul's Cathedral Mission College, and Fellow, Calcutta University, Calcutta.	1 2	105 282
Holme, James W., M.A., Professor of English, Presidency College, Calcutta.	2 3	283 392
Holmes, Rev. W. H. G., of the Oxford University Mission to Calcutta, Superintendent, Oxford Mission Hostel of St. Luke, Calcutta.	1 2	110 285
Hossain, Wahed, B.A., B.L., Vakil, High Court, and Secretary, Bengal Presidency Muhammadan Educational Association, Calcutta.	1 2	112 285
Howard, Mrs. G. L. C., M.A., Second Imperial Economic Botanist, Agricultural Research Institute, Pusa.	2	286
Hunter, M., M.A., F.C.S., C.I.E., Principal, Rangoon College, and Fellow, Calcutta University, Rangoon.	1 2	113 286
Hunter, Mark, M.A., Professor of English, Presidency College, and Fellow, Madras University, Madras.	1 2	113 287
Huq, The Hon'ble Maulvi A. K. Fuzlul, M.A., B.L., Vakil, High Court, Additional Member, Bengal Legislative Council, and President, Bengal Presidency Muslim League, Calcutta.	1 2 3	114 288 393
Huque, M. Azizul, B.L., Pleader, and Joint Secretary, Bengal Presidency Muhammadan Educational Association, Krishnagar.	1 2 3	114 288 394
Huque, Kazi Imdadul, B.A., B.T., Head Master, Calcutta Training School, Calcutta.	1 2	117 288
Husain, The Hon'ble Mian Muhammad Fazli, Khan Bahadur, Bar.-at-Law, Advocate, Chief Court, Additional Member, Punjab Legislative Council, and Fellow, Punjab University, Lahore.	1 2	118 289
Hydari, M. A. N., B.A., Secretary to His Exalted Highness the Nizam's Government, Judicial, Police and General Departments, Hyderabad (Deccan).	1 2	119 289
Ibrahim, Khan Bahadur Muhammad, B.A., Additional Inspector of Schools, Presidency Division, and Fellow, Calcutta University, Calcutta.	1 2	119 289
Imam, The Hon'ble Justice Sir Ali, K.C.S.I., Bar.-at-Law, Puisne Judge, High Court, Patna.	1 2	119 290

Name and designation of correspondent	*Question answered.*	*Page.*
Indian Association, Calcutta.	2	291
	3	395
Irfan, Maulvi Mohammad, M.A., Professor of Arabic and Persian, Dacca College, and Fellow, Calcutta University, Dacca.	1	121
	2	291
	3	396
Irons, Miss M. V., M.A. (T.C.D.), Inspectress of Schools, Dacca Circle, Dacca.	1	122
	2	291
Ismail, Khan Bahadur Mohammad, B.L., Public Prosecutor, and Vice-Chairman, District Board, Mymensingh.	1	122
	2	292
Iyer, The Hon'ble Mr. Justice T. V. Seshagiri, B.A., B.L., Puisne Judge, High Court, and Fellow, Madras University, Madras.	1	122
	2	292
	3	396
Jalil, Abdul, M.Sc., Assistant Professor of Physics, and Superintendent, Muslim Hostel, Meerut College, Meerut.	1	123
	2	292
Jenkins, Walter A., M.Sc., Professor of Physics, Dacca College, Dacca.	1	124
	2	292
Jennings, The Hon'ble Mr. J. G., M.A., Vice-Chancellor, Patna University, Patna.	1	125
	2	293
Jevons, H. Stanley, M.A., F.S.S., Professor of Economics, University of Allahabad, Allahabad.	1	126
	2	294
Johnston, Rev A. B., M.A., Vice-Principal, St. Paul's Cathedral Mission College, Calcutta.	2	294
Jones, C. E. W., M.A., Director of Public Instruction, North-West Frontier Province, Peshawar.	1	126
	2	294
Jones, T. Cuthbertson, B.A., Principal and Professor of English Literature, Agra College, Agra.	1	127
	2	295
Kar, Sites Chandra, M.A., Professor of Mathematics, Bangabasi College, and Lecturer in Applied Mathematics, Calcutta University, Calcutta.	1	127
	2	295
	3	396
Karim, Maulvi Abdul, B.A., Honorary Fellow, Calcutta University, Calcutta.	1	128
	2	295
	3	396
Karve, D. K., Founder of the Hindu Widows' Home, and Organiser of the Indian Women's University, Poona City.	1	128
	2	295
Kasimbazar, Maharajah of. Please see Nandy, The Hon'ble Maharajah Sir Manindra Chandra.		
Khan, Abul Hashem, Assistant Inspector of Schools, Burdwan Division, Chinsura.	1	128
	2	296

Name and designation of correspondent.	*Question answered.*	*Page.*
Khan, Mohomed Habibur Rahman, Shirwani, Honorary Joint Secretary, All-India Muhammadan Educational Conference, Aligarh.	1 2	128 296
Khastgir, Karunamay, M.Sc., Professor of Mathematics, Presidency College, and Lecturer in Applied Mathematics, Calcutta University, Calcutta.	1 2	129 296
Ko, Taw Sein, C.I.E., I.S.O., K.S.H., M.R.A.S., Superintendent, Archæological Survey, Burma Circle, Mandalay.	1 2	130 296
Krishnagar, Maharaja of. Please see Ray, Maharaja Kshaunish Chandra, Bahadur.		
Kundu, Rai Bejoy Narayan, Bahadur, Zamindar, Itachuna.	1	130
Kundu, Purnachandra, M.A., Offg. Principal, Chittagong College, Chittagong.	1 2	130 297
Lahiri, Becharam, B.A., B.L., Pleader, Judge's Court, and Secretary, Nadia District Association, Krishnagar.	1 2	132 297
Lahiri, Gopal Chandra, Proprietor, Pabna Institution, Pabna.	1 2 3	132 297 396
Lahiry, Ranojit Chandra, M.A., B.L., Pleader, District Court, and Member, Edward College Council, Pabna.	1 2 3	133 298 396
Langley, G. H., M.A., Professor of Philosophy, Dacca College, Dacca.	1 2	133 298
Latif, Syed Abdul, Khan Bahadur, B.A., B.L., Sadar Sub-Divisional Officer, Dacca.	1 3	133 397
Law, The Hon'ble Rajah Reshee Case, C.I.E., Additional Member, Bengal Legislative Council, and Honorary Secretary, British Indian Association, Calcutta.	1 2	134 298
Lucas, Rev. E. D., M.A., Offg. Principal, Forman Christian College, Lahore.	1 2	134 298
Mahalanobis, Prasanta Chandra, B.A., Professor of Physics, Presidency College, and Lecturer in Physics, Calcutta University, Calcutta.	1 2	134 298
Mahasai, Kumar Kshitindradeb Rai, of Bansberia Raj, Calcutta.	1 2 3	135 301 397
Mahtab, The Hon'ble Sir Bijay Chand, K.C.S.I., K.C.I.E., I.O.M., Maharajadhiraja Bahadur of Burdwan, Calcutta.	1 2 3	136 301 397

Name and designation of correspondent.	*Question answered.*	*Page.*
Maitra, Akshay Kumar, B.L., Director, Varendra Research Society, and Member, Asiatic Society, Bengal, Rajshahi.	1 2 3	136 301 397
Maitra, Gopal Chandra, M.A., Principal, Victoria College, Narail.	1 2 3	136 301 398
Maitra, Herambachandra, M.A., Principal, City College, and Fellow, Calcutta University, Calcutta.	1 2	136 302
Majumdar, Biraj Mohan, M.A., B L., Vakil, High Court, Vice-Principal, University Law College, and Fellow, Calcutta University, Calcutta.	1 2	137 303
Majumdar, Panchanan, B.L., Pleader, and Secretary, Akrumani Coronation High English School, Malda.	1 2	138 303
Majumdar, Ramesh Chandra, M.A., Assistant Professor of History, Calcutta University, Calcutta.	1 2 3	138 303 398
Majumder, Narendrakumar, M.A., Lecturer in Pure Mathematics, Calcutta University, Calcutta.	1 2	138 303
Mallik, Dr. D. N., B.A., D.Sc., F.R.S.E., Professor of Mathematics Presidency College, and Fellow, Calcutta University, Calcutta.	1 2	139 304
Masood, Syed Ross, B.A., Bar.-at-Law, Director of Public Instruction, Hyderabad (Deccan).	1 2	139 304
Maynard, The Hon'ble Mr. H. J., C.S.I., I.C.S., M.A., Financial Commissioner to the Government of the Punjab, Vice-Chancellor, Punjab University, Lahore.	1	139
Mazumdar, The Hon'ble Babu Amvika Charan, M.A., B.L., Additional Member, Bengal Legislative Council, Faridpur.	1 2 3	140 304 398
McDougall, Miss Eleanor, M.A., Principal, Women's Christian College, Madras.	1 2	141 304
Meek, D.B., M.A., B.Sc., Professor of Physics, Presidency College, and Fellow, Calcutta University, Calcutta.	1 2	141 305
Mitra, Khagendra N., B.A., Lecturer in Experimental Psychology, Calcutta University, Calcutta.	1 3	142 398
Mitra, The Hon'ble Rai Mahendra Chandra, Bahadur, M.A., B.L., Vakil, Additional Member, Bengal Legislative Council, Member, Governing Body, Hooghly College, Chairman, Hooghly Chinsura Municipality, and Member, District Board, Hooghly, Chinsura.	1 2 3	143 305 399

Name and designation of correspondent.	*Question answered.*	*Page.*
Mitra, Ram Charan, C.I.E., M.A., B.L., Senior Government Pleader, High Court, Calcutta.	1 2 3	143 305 399
Mitter, Dr. Dwarkanath, M.A., D.L., Vakil, High Court, and Fellow, Calcutta University, Calcutta.	1 2 3	144 306 399
Mitter, Dr. Profulla Chandra, M.A., Ph.D., Sir Rash Behary Ghose Professor of Chemistry, University College of Science, and Fellow, Calcutta University, Calcutta.	1 2 3	144 306 400
Mitter, The Hon'ble Mr. Provash Chunder, Vakil, High Court, Additional Member, Bengal Legislative Council, Secretary, South Suburban College and School, and Secretary, Sir R. C. Mitter Hindu Girls' School, Calcutta.	1 2	144 306
Mohammad, Dr. Wali, M.A., Ph.D., Tutor and Professor of Physics, Muhammadan Anglo-Oriental College, and Fellow, University of Allahabad, Aligarh.	2	306
Mukerjee, Adhar Chandra, M.A., B.L., Emeritus Professor of History, Scottish Churches College, and Fellow, Calcutta University, Calcutta.	1 2	145 307
Mukerjee, Dr Adityanath, M.A., Ph.D, Premchand Roychand Scholar, Professor of Philosophy, Presidency College, Calcutta.	1 2 3	145 307 400
Mukerjee, Bijoy Gopal, M.A., Professor of English, Bethune College, and Lecturer in English, Calcutta University, Calcutta.	2	308
Mukerjee, Radhakamal, M.A., Premchand Roychand Scholar, Lecturer in Economics, Calcutta University, Calcutta.	1 2 3	145 308 400
Mukerji, Satish Chandra, M.A., Demonstrator in Chemistry, Presidency College, Calcutta.	1	146
Mukherjee, B., M.A., F.R.E.S., Vakil, High Court, and Occasional Lecturer in Economics, Diocesan College for Girls, Calcutta.	2 3	308 401
Mukherjee, Jnanendranath, M.Sc., Lecturer in Physical Chemistry, University College of Science, Calcutta.	2 3	309 401
Mukherji, Panchanandas, M.A., F.R.E.S., Professor of Political Economy and Political Philosophy, Presidency College, and Lecturer in Economics, Calcutta University, Calcutta.	1 2 3	148 310 402
Mukhopadhyaya, Dr. Syamadas, M.A., Ph.D., Senior Lecturer in Pure Mathematics, Calcutta University, Calcutta.	1 2 3	148 311 402
Murarichand College, Sylhet—		
Ahmed, Maulvi Majiduddin, M.A., Professor of Persian.	1	149
Bhattacharya, Manjugopal, M.A., Professor of English.	2	312

Name and designation of correspondent.	*Question answered.*	*Page.*
Murarichand College, Sylhet—*contd.*		
Bhowani, Radhagobinda, M.A., Professor of Physics.	3	403
Chakravarti, Vanamali, Vedantatirtha, M.A., Senior Professor of Sanskrit.		
Datta, Jatindra Mohan, M.A., F.C.S., Professor of Chemistry.		
Gupta, Kisorimohan, M.A., Professor of History.		
Gupta, Surendra Chandra, M.A., Professor of English.		
Kundu, Surendralal, M.A., Professor of Logic and Philosophy.		
Mukharji, Nalinimohan, Shastri, M.A., Professor of Sanskrit.		
Pradhan, Sitanath, M.Sc., Demonstrator in Physics.		
Seal, Nimaichand, M.A., Professor of History.		
Sen, Gopal Chandra, B.A., Demonstrator in Chemistry.		
Sen, Surendranath, M.A., Professor of Mathematics.		
Sen Gupta, Sureschandra, M.A., Professor of English.		
Thomas, R. R., M.A., Professor of Logic and Philosophy.		
Nag, J.C., B.Sc., Professor in Charge, Botanical Laboratory, Presidency College, Calcutta.	1 2	149 312
Nag, P. N., M.A., Head Master, United Free Church Mission High School, Chinsura.	2	312
Naik, K. G., Assistant Professor of Chemistry, University College of Science, and Lecturer in Chemistry, Calcutta University, Calcutta	2 3	312 403
Nandi, Mathura Kanta, M.A., Head Master, Bankura Zilla School, on deputation to the David Hare Training College, Calcutta	1 2	150 312
Nandy, The Hon'ble Maharaja Sir Manindra Chandra, of Kasimbazar, K.C.I.E., Additional Member, Imperial Legislative Council, Calcutta.	1 2 3	150 313 403
Nanjundayya, H. V., C.I.E., M.A., M.L., Vice-Chancellor, Mysore University, Mysore.	1 2	151 313
Neogi, Dr. P., M.A., Ph.D., F.C.S., Professor of Chemistry, Rajshahi College, Rajshahi.	1 2 3	151 314 403
Neut, Rev. Father A., S.J., Honorary Fellow, Calcutta University, Calcutta.	1 2	153 314
North Bengal Zamindars' Association, Rangpur.	1 2	153 314
Pal, The Hon'ble Rai Radha Charan, Bahadur, Additional Member, Bengal Legislative Council, Calcutta.	1 2	154 315
Paranjpye, The Hon'ble Mr. R. P., M.A., B.Sc., Principal, Fergusson College, Additional Member, Bombay Legislative Council, and Fellow, Bombay University, Poona.	1 2	154 315
People's Association, Khulna.	1 2	154 316

Name and designation of correspondent.	*Question answered.*	*Page.*
Prasad, Dr. Ganesh, M.A., D.Sc., Sir Rash Behary Ghose Professor of Applied Mathematics, University College of Science, Fellow, University of Allahabad, and Member of the Court, Council and Senate, Benares Hindu University, Calcutta.	1 3	155 404
Rahim, The Hon'ble Mr. Justice Abdur, M.A., Bar.-at-Law, Puisne Judge, High Court, and Fellow, Madras University, Madras.	1 2 3	155 316 405
Raman, C. V., M.A., Sir Taraknath Palit Professor of Physics, University College of Science, Calcutta.	1 2	155 316
Ray, Baikuntha Chandra, M.A., Professor of Mathematics, Krishnath College, Berhampur.	1	66
Ray, Dr. Bidhan Chandra, B.A., M.D., F.R.C.S., M.R.C.P., Teacher of Materia Medica, Campbell Medical School, and Fellow, Calcutta University, Calcutta.	1 2	156 317
Ray, Joges Chandra, M.A., Professor of Botany, Ravenshaw College, Cuttack.	1 2	156 317
Ray, Maharaja Kshaunish Chandra, Bahadur, of Krishnagar, Nadia, Krishnagar.	1 2	157 318
Ray, Manmathanath, M.A., B.L., Vakil, High Court, Professor of Real Property and Contracts and Torts, University Law College, and Fellow, Calcutta University, Calcutta.	1 2 3	157 318 406
Ray, Sir. P. C., D.Sc., Ph.D., F.S.C., C.I.E., Sir Taraknath Palit Professor of Chemistry, University College of Science, and Fellow, Calcutta University, Calcutta.	1 2 3	158 319 406
Ray, Raja Pramada Nath, of Dighapatia, Calcutta	1 2 3	159 319 406
Ray, Sarat Chandra, B.L., Government Pleader, Chairman, Rampur-Bolia Municipality, and Lecturer in Law, Rajshahi College, Rajshahi	1 2 3	159 319 407
Ray, Satis Chandra, M.A., Lecturer in Economics, Calcutta University, Kantalpara.	1 2 3	159 319 407
Reyazuddin, Syed, Quazi, B.L., Secretary, National Muhammadan Association, Bogra.	2	319
Richardson, Thomas H., M.A., B.A.I., M.I.C.E., Professor of Civil Engineering, Civil Engineering College, and Fellow, Calcutta University, Sibpur.	1 2	160 320
Richey, The Hon'ble Mr. J. A., M.A., Director of Public Instruction, the Punjab, Additional Member, Punjab Legislative Council, and Fellow, Punjab University, Lahore.	2	320

Name and designation of correspondent.	*Question answered.*	*Page.*
Roberts, David E., M.Sc., Fellow, University of Wales, and Professor of Physics, Cotton College, Gauhati.	1 2	160 321
Roy, Hira Lal, B.A., Professor of Chemistry, Bengal Technical Institute, Calcutta.	1 2	160 321
Roy, Munindranath, B.A., Head Master, Coronation High English School, Dinajpur.	2	322
Roy, The Hon'ble Rai Sri Nath, Bahadur, Additional Member, Bengal Legislative Council, Mymensingh.	1 2	161 322
Roy, The Hon'ble Babu Surendra Nath, Additional Member, Bengal Legislative Council, Behala.	1 2 3	161 322 407
Rudra, S. K., M.A., Principal and Professor of Economics, St. Stephen's College, Delhi.	1 2	161 322
Saha, Meghnad, M.Sc., Lecturer in Mathematical Physics, University College of Science, Calcutta.	1 2 3	162 323 408
Sahay, Rai Bahadur Bhagvati, M.A., B.L., F.A.S.B., Offg. Inspector of Schools, Bhagalpur Division, Bhagalpur.	1	162
Sanyal, Nisikanta, M.A., Professor of History, Ravenshaw College, Cuttack.	1	164
Sapru, The Hon'ble Dr. Tej Bahadur, M.A., LL.D., Advocate, High Court, North West Provinces, and Additional Member, Imperial Legislative Council, Allahabad.	1 2	164 323
Sarkar, Akshaykumar, M.A., Professor of History, Chittagong College, Chittagong.	1 2	165 324
Sarkar, Bejoy Kumar, B.A., Lecturer in Economics, Calcutta University, Calcutta.	1 2 3	167 325 408
Sarkar, Gopal Chandra, B.A., Second Inspector of Schools, Dacca Division, Dacca.	1 2	168 325
Sarkar, Kalipada, M.A., Assistant Inspector of Schools, Chittagong Division, Chittagong.	1 2	168 325
Sarma, The Hon'ble Rao Bahadur B. N., B.A., B.L., Vakil, High Court, and Additional Member, Imperial Legislative Council, Madras.	1 2	168 325
Sastri, Kokileswar, Vidyaratna, M.A., Professor of Vedanta and the Upanishads, Calcutta University, Calcutta.	2	326
Sastri, Rai Rajendra Chandra, Bahadur, M.A., Bengali Translator to the Government of Bengal, and Lecturer in Sanskrit, Calcutta University, Calcutta.	1 2 3	169 326 409

Name and designation of correspondent.	*Question answered.*	*Page.*
Satiar, Radhika Lal, B.L., Secretary, Malda Association, Malda.	3	409
Sayied, Abdullah Abu, M.A., Professor of Arabic and Persian, Cotton College, Gauhati.	1 2	169 326
Scottish Churches College Senatus, Calcutta— Cameron, A., M.A., Professor of English. Ewan, Rev. G., M.A., Professor of Philosophy. Kydd, J. C., M.A., Professor of Political Philosophy and Economics. Urquhart, Rev. Dr. W. S., M.A., D.Phil., Vice-Principal and Professor of Philosophy, and Fellow, Calcutta University. Warren, Rev. A., B.A., Professor of English. Watt, Rev. Dr. J., M.A., D.D., F.C.S., Principal and Professor of Chemistry, and Fellow, Calcutta University. Alexander, W., M.A., Head Master, Scottish Churches Collegiate School.	1	169
Seal, Dr. Brajendranath, M.A., Ph.D., George V Professor of Mental and Moral Science, and Fellow, Calcutta University, Calcutta.	1 2 3	170 326 409
Sen, Atul Chandra, M.A., B.L., Professor of Philosophy, Ripon College, Calcutta.	1	173
Sen, B. M., M.Sc., Professor of Mathematics, Dacca College, Dacca.	2	331
Sen, Benoy Kumar, M.A., Professor of History, Presidency College, Calcutta.	1 2	174 331
Sen, Bipinbehari, M.A., B.L., Lecturer in History, Calcutta University, Calcutta.	1 2 3	175 331 411
Sen, Rai Boikunt Nath, Bahadur, B.L., Vakil, High Court, Chairman, Murshidabad District Board, and Member, Governing Body and Board of Trustees, Krishnath College, Berhampur.	1 2	176 332
Sen, Nikhilranjan, M.A., Lecturer in Applied Mathematics, University College of Science, Calcutta.	1 2	176 332
Sen, Raj Mohan, M.A., Professor of Mathematics, Rajshahi College, Rajshahi.	1 2	177 332
Sen, Dr. S. K., L.R.C.P., L.R.C.S., L.R.F.P.S., Burdwan.	2	333
Sen, Rai Satis Chandra, Bahadur, B.L., Senior Government Pleader, Chittagong.	1 2	178 333
Sen, Surendranath, M.A., Lecturer in History, Calcutta University, Calcutta.	2	333
Sen, Surya Kumar, B.A., Head Master, Patiya High School, Chittagong.	1 2	178 334

Name and designation of correspondent.	*Question answered.*	*Page.*
Sen Gupta, Hemchandra, M.A., Professor of Mathematics, Presidency College, and Lecturer in Applied Mathematics, Calcutta University, Calcutta.	1 2	178 334
Sen Gupta, Dr. Narendranath, M.A., Ph.D., Lecturer in Charge of the Department of Experimental Psychology, Calcutta University, Calcutta.	1 2 3	178 335 412
Sen Gupta, Dr. Nares Chandra, M.A., D.L., Vice-Principal, Dacca Law College, Dacca.	1 2	182 335
Sen Gupta, Surendra Mohan, M.A., Professor of Mathematics, Ripon College, Calcutta.	1 2	185 336
Serampore College, Serampore—	1	185
Angus, Rev., G. H. C., M.A., B.D., Professor of English and Hebrew.	2 3	337 412
Bhaduri, S.C., M.A., Lecturer in History and Examiner of Exercises in English.		
Bhattacharyya, A. K., M.A., Lecturer in Bengali and Sanskrit.		
Bhattacharyya, Pandit Panchanan, Kavyatirtha, Vidyabinod, Lecturer in Sanskrit and Bengali.		
Chakravarti, J. N., M.A., Lecturer in English.		
Das Gupta, D. N., M.A., Lecturer in Chemistry.		
Das Gupta, J. C., M.A., Lecturer in Economics.		
Drake, Rev. J., M.A., B.D., Vice-Principal and Professor of English, Philosophy and Hebrew.		
Geevergese, Rev. Father P. T., M.A., Professor of Syriac.		
Ghosal, D. N., M.A., Lecturer in Logic and Philosophy.		
Howells, Rev. Dr. G., M.A., B.D., B.Litt., Ph.D., Principal and Professor of English and History, and Fellow, Calcutta University.		
Maitra, N., B.Sc., Demonstrator in Chemistry.		
Matthews, Rev. G. H., M.A., Professor of English and Philosophy.		
Mukerji, K. K., M.Sc., Lecturer in Mathematics.		
Mukerji, N. N., M.A., Lecturer in History.		
Mukerji, S. C., M.A., B.L., Professor of English.		
Rawson Rev. J. N., B.Sc., B.D., Professor of English and Philosophy.		
Sen Gupta, H. P., M.A., Lecturer in Sanskrit.		
Underwood, Rev. A. C., M.A., B.D., Professor of English.		
Bhattacharyya Madhusudan, B.A. Assistant, Collegiate High School.		
Carpenter, Rev. G. C., B.A., B.D., Head Master, Collegiate High School		
Sharp, The Hon'ble Mr. H., C.S.I., C.I.E., M.A., Educational Commissioner with the Government of India, Simla.	1 2 3	186 337 412
Shastri, Pashupatinath, M.A., B.L., Lecturer in Sanskrit, Calcutta University, Calcutta.	1 2 3	186 339 413

Name and designation of correspondent.	*Question answered.*	*Page.*
Shastri, Dr. Prabhu Dutt, M.A., Ph.D., B.Sc., M.O.L., B.T., Senior Professor of Philosophy, Presidency College, and Lecturer in Mental and Moral Science, Calcutta University, Calcutta	1 2	187 339
Singh, Prakas Chandra, B.A., Nyayabagisha, Senior Deputy Magistrate, Mymensingh.	1	188
Sinha, Anandakrishna, M.A., B.L., Professor of English, Ripon College, Calcutta.	2 3	340 413
Sinha, Kumar Manindra Chandra, Zamindar, Paikpara Raj, Cossipur.	1 2 3	190 341 413
Sinha, Panchanan, M.A., B.L., Principal, South Suburban College, Calcutta.	1 2 3	190 341 413
Sinha, Upendra Narayan, M.A., Principal, Victoria College, Cooch Behar.	2	341
Sircar, Anukul Chandra, M.A., Ph.D., F.C.S., Premchand Roychand Scholar, Lecturer in Chemistry, Presidency College, Calcutta.	1 2	190 342
Sircar, the Hon'ble Sir Nilratan, Kt. M.A., M.D., Medical Practitioner, Fellow, Calcutta University, and Additional Member, Bengal Legislative Council, Calcutta.	1 2 3	190 342 414
Slater, Dr. Gilbert, M.A., Professor of Indian Economics, and Fellow, Madras University, Madras.	1 2	191 342
Smith, W. Owston, M.A., Principal, Holkar College, Indore.	1 2 3	191 343 414
Stephenson, Lt.-Col. J., M.B., F.R.C.S., I.M.S., Principal, Government College, and Fellow, Punjab University, Lahore.	1	191
Sudmersen, F. W., B.A., Principal, Cotton College, and Fellow, Calcutta University, Gauhati.	1 2	192 343
Suhrawardy, Hassan, M.D., F.R.C.S., M.R.A.S., Fellow of the Medical Society of London, District Medical Officer, Lillooah.	1 2	193 344
Suhrawardy, Z.R. Zahid, M.A., B.L., Judge, Presidency Small Cause Court, and Fellow, Calcutta University, Calcutta.	1 2	193 344
Tarkabhushana, Mahamahopadhyaya Pramathanath, Professor of Mimamsa and Manu, Sanskrit College, and Lecturer in Sanskrit, Calcutta University, Calcutta.	1	193
Thomson, Dr. David, M.A., B.Sc., Ph.D., Offg. Inspector of Schools, Surma Valley and Hill Districts, and Fellow, Calcutta University, Shillong.	1 2	194 344
Tipple, E. F., B.A., Professor of Mathematics, Thomason Civil Engineering College, Roorkee.	1 2	194 345

Name and designation of correspondent.	*Question answered.*	*Page.*
Turner, F. C., B.A., Principal, Dacca College, and Fellow, Calcutta University, Dacca.	1 2	195 345
Vachaspati, Siti Kantha, Lecturer in Hindu Law, Calcutta University, Calcutta.	1 2 3	196 346 415
Victoria, Sister Mary, C.J., S B., Principal, Diocesan College for Girls, Calcutta.	1 2	196 347
Vidyabhusan, Rajendranath, Lecturer in Sanskrit Literature and Rhetoric, Sanskrit College, and Lecturer in Sanskrit, Calcutta University, Calcutta.	1 2	197 347
Vidyabusana, Mahamahopadyaya Dr. Satis Chandra, M.A., Ph.D., M.R.A.S., F.A.S.B., Principal, Sanskrit College, and Fellow, Calcutta University, Calcutta.	2	348
Vredenburg, E,, M.A., B.-ès-L., B.-ès-Sc., A.R.S.M., A.E.C.S., F.G.S., Superintendent, Geological Survey of India, and Lecturer in Geology, Calcutta University, Calcutta.	2	348
Waheed, Shams-ul-Ulama Abu Nasr, M.A., Principal, Dacca Madrassah, and Fellow, Calcutta University, Dacca.	1 2 3	197 348 415
Walker, Dr. Gilbert T., C.S.I., M.A., F.R.S., Sc.D., Director-General of Observatories, Meteorological Department, Government of India, Simla.	1 2	198 348
Wathen, G. A., M.A., Principal, Khalsa College, Amritsar.	1 2	198 349
Watkins, Rev. Dr. C. H., M.A., D.Th., Principal, Carmichael College, Rangpur.	2	349
Webb, The Hon'ble Mr. C. M., I.C.S., Secretary to the Government of Burma, Educational Department, Rangoon.	1 2	198 350
Whitehead, The Right Rev. H., M.A., D.D., Bishop of Madras, Madras.	1 2	199 350
Williams, Rev. Garfield, M.A., Principal, St. Andrew's College, Gorakhpur	1 2	199 350
Williams, L. F. Rushbrook, B.A., B.Litt., F.R. Hist.S., M.R.A.S., etc., Fellow of All Souls, Professor of Modern Indian History, University of Allahabad, Allahabad.	1	201
Wordsworth, The Hon'ble Mr. W. C., M.A., Offg. Director of Public Instruction, Bengal, Additional Member, Bengal Legislative Council and Fellow, Calcutta University, Calcutta.	1 2 3	203 352 416
Zachariah, K., B.A., Professor of History, Presidency College, and Lecturer, Calcutta University, Calcutta.	1 2	204 352

QUESTION 1.

Do you consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training? If not, in what main respects do you consider the existing system deficient from this point of view?

ANSWERS.

ABDURRAHMAN, Dr.

"I call a complete and generous education that which fits a man to perform justly, skilfully, and magnanimously all the offices, both public and private, of peace and war." The Indian university system is a far cry to such education, a far cry in space and function. The paradox is true that study in an Indian university interferes with education.

This is an age of progressive change. University ideals should embody the intelligent consciousness of a people. Modern educationists believe that it is knowledge as well as the student, which is power. The universities in this country neglect both the requirements of knowledge and the needs of students. According to the prevalent theories the teaching of a subject is either cultural or vocational. Indian university training affords a university scholar but limited opportunities to acquire either a humanistic and liberal education or to relate himself to the world.

(*a*) The first fault of the Indian universities is a stagnant traditionalism. They are not only conservative, but behind the times. Dr. Wali Mohammad, Professor of Physics at Aligarh, writes to the following effect on this subject:—"Think of the extraordinary rapid rate at which discoveries have been made during the last few years. 'Never probably has experimental physical investigation experienced so strenuous an advance as during the last generation and never probably has the perception of its significance for human progress penetrated into wider circles than to-day.' A year is more pregnant with discovery than a hundred years used to be. Yet, how far the results of the newest and latest investigations have any value in the teaching can be judged from the physics syllabus of the Allahabad University. This syllabus was laid down in 1894 for the use of B. A. students, though the degree of B. Sc. was not instituted till 1897 when the first candidate appeared for examination. From the day of its inception in 1893-94 to the present day (1915) the syllabus has not been changed by a single iota, yet the board of studies in physics has met year after year during the last 21 years to ponder over it and to pronounce the oracular words 'no change'."

I admit that books take some time to reach far distant countries but that cannot justify the ignorance or neglect of such modern knowledge as is the property of all the civilised world to-day. It is a pity that the English universities and authors, who give to the Indian universities their text books hesitate to translate the great modern continental writers until their books are put on the Index or their death. The universities of India should undertake the work of such translation themselves and keep pace with the progress of knowledge, independent of England. This alone can start that educational enthusiasm which is the motive force for research and the life-principle of the work of the promotion of knowledge and the publication of truth.

(*b*) The problem of the teaching of the English language in India is very important. English is the official language of the country and the vehicle of Western culture and knowledge. The Universities Commission of 1902 drew attention to the lack of command of the Indian student over the English language. Their finding that the evil starts in schools is correct. It is time that expert opinion were concentrated upon the question of school education in India and means devised for its reform and its proper adjustment to higher education.

ABDURRAHMAN, Dr.—*contd.*

The greatest obstacle to rapid progress is bad teaching. It is here, and not in the university, that the services of an English teacher are needed for teaching the sounds correctly by the imitation method, the teacher acting as the model.

The teaching of the English language in the university suffers for the following reasons :—

(i) The teaching of the subject is, generally, in the hands of English professors. A Tagore is better qualified to teach the English language to Bengali students than a Bridges or a Yeats.

(ii) The paraphrase method is employed in teaching to the exclusion of the translation method. The opinions of educationists differ on the value of translation for the practical acquisition of a language. Some say that the exchange of symbol for symbol neglects the acquisition of the form side of the foreign language and is not a help in building vocabulary. This view is opposed by others who maintain that a foreign language cannot be properly learnt unless it is translated into the mother-tongue. The translation of one expression into another is like pouring wine from a vase of a certain shape into a vase of another shape. The properties of the language, like the properties of wine, are themselves visible and the senses are roused to the emotion of enjoyment. Translation into the mother-tongue lends the power of control over the language translated.

Moreover, the art of translation into the mother-tongue is in itself a great achievement and has much utilitarian value. The translations of the English classics can most easily bring about a fusion of Eastern and Western ideas in India and take the culture of Europe to the great mass of people who do not know the English language.

(iii) Universities do not require practical oral control of the language from their students. Attention ought to be given to work in speaking because of its positive value.

(iv) The study of Latin should be encouraged. The course will serve as the scaffolding for the building up of a sound knowledge of English, and the formal drill in grammar would solve most of the difficulties met by a student of a new language.

(v) The text-books should be better graded than they are now.

(vi) The tendency in all the Indian universities at present is to read the classics and generally dramas, plays, novels, and essays. The needs of Indian students demand also a study of modern writers and of more useful knowledge. The classic and the most modern authors should be interwoven.

(c) The vernaculars and the universities. (See my answer to question 12.)

(*d*) The study of oriental languages. (See my answer to question 12.)

(*e*) The system of examinations. (See my answers to questions 9 and 10.)

(*f*) Admission to the University. (See my answer to question 8.)

(*g*) Relations with Government. (See my answer to question 14.)

(*h*) Public Services and the University. (See my answer to question 15.)

(*i*) A university is an assemblage of men of learning. Just as you cannot build a French university by appointing Englishmen as the most senior professors at the Sorbonne you cannot build an Indian university by giving Englishmen precedence over Indians. The Indian Educational Service recruited by the Secretary of State in England is composed "almost entirely of Europeans". Indians are generally appointed to the Provincial and Subordinate Services.

Again, a distinction is usually made between a graduate of an English or a continental and a graduate of an Indian university.

All appointments should be made on individual merit alone without any class preference and the distinction between the Indian Educational Service and the Provincial Service should be abolished. If preferential treatment is accorded to Europeans its effect on Indian professors and students alike is bad

ABDURRAHMAN, Dr.—*contd.*

It makes the Indian staff feel that it is unjustly treated and weakens the character of the students, who represent the future generations, both morally and politically. Such inequality has a tendency to become the source of political trouble because it suggests to the Indians in general, and to the younger generation in particular, that they are less than free men.

Education is the cultivation of civilisation. Indian civilisation can be cultivated by Indians, and not by Europeans.

Another great disadvantage that attaches to the appointment of Englishmen or Europeans as professors in Indian universities is that as soon as such professors gain some eminence and the time arrives for India to benefit by their educational experience and literary or scientific attainments they leave the country. For example, Sir Walter Raleigh, Mr. Harold Cox, Editor of the "Edinburgh Review," Mr. T. W. Arnold, Dr. J. Horovitz, and Sir Theodore Morison are all Aligarh ex-professors. These are the only eminent European professors (with the exception of Principal Beck who died at a young age in Simla) that Aligarh has had during the last fifty years and all of them have been lost to Aligarh.

(*j*) "The freedom of thought, research, and teaching is the jealously guarded palladium of the unwritten constitution of all the universities." This freedom, in fact, does not exist in Indian universities. The political struggle for the right to free speech and publication is reflected in the beginning of a similar struggle for the freedom of lecture and publication of truth in the colleges. If ideas and scientific information are so abstract that they have no relation with national life and political aspirations the teacher enjoys proper liberty. But in all subjects bearing upon civic, economic, and political practice the Indian professor, if he is of a national intellectual attitude, finds that he has only limited academical freedom. The text-books, his own colleagues, and his principal do not permit him to discuss his subject in a way hostile to the avowed opinions. Indian students in the school and college are taught a history of their own country and people which can only be compared with the account of the Egyptians by Herodotus. If the teaching of Indian history is possible in no other way it is the first duty of Indian patriots to represent that Indian history should not be taught in Indian universities. The truth that Mahmud broke the Icon at Somnat should not be told as a matter of course to the young and immature for they are not capable of judging in after-life as of first importance what they learnt in the beginning at school or college.

In economics and politics the student is allowed to hear one side alone. It is alleged that the doctrines representing the purely Indian points of view are not sufficiently well established to sanction their class-room publication. It is no new argument, and has always been employed to check the free diffusion of knowledge. One can hardly conceive that Indian opinion on Indian subjects can be dismissed as merely propagandist. As a matter of fact, if free discussion of both the sides of the problem were permitted the student is pretty sure to reach the truth and to avoid being misled by any one-sided presentation.

(*k*) The Indian universities are governmental. Where they are lacking in *Lehrfreiheit* they are also lacking in liberty. A university as a home of learning should have a proper sense of freedom. In Europe and America the universities always stand for the cause of political and scholastic liberty. They are everywhere the determined foes of absolutism. The universities of militarist Prussia are politically the most democratic bodies existent. Several attempts, all ineffectual, have been made to limit this freedom. Here is a contrast. The Prussian Ministry in a recent case decided that membership of the Social-Democratic party was sufficient reason for exclusion from the position of a university professor. The whole of the faculty rose in opposition as one man and the orders were withdrawn. The Calcutta University had to send away a number of its law professors because Government did not approve of their political views.

(*l*) The relations between English teachers and Indian students are not what they should be. Such professors instead of being men who should have taught in the universities of England are but young graduates of those institutions. Neither their age nor their learning are such as to command the respect which is due to a really great teacher.

Over and above this English professors in India take after the ways of the Indian civilians. The Indian student is orderly and obedient, but he believes in both patriotism and individuality and resents any treatment which hurts his dignity as an Indian.

Why should European professors treat Indian students in a manner which, if it had been observed in their case at Oxford or Cambridge, would have been not only passively, but actively, opposed by them ?

In England undergraduate students sit on the governing bodies of some universities, with full powers of membership. In Rome, if the students wish to shorten the term by a few weeks, they vote to shorten it and go home. If they dislike a professor they say so and the professor is obliged to resign. In the University of Athens there is a monument to the students who lost their lives in an endeavour to oppose what they and their fellows regarded as State usurpation.

In India, as was the case in St. Petersburg, it is asserted, perhaps with reason, that there are C. I. D. spies among the students.

In Germany the *Burschenschaften* were, and are, distinctly political bodies. They had started at the call of Fichte and Jahn for national revival and political freedom. The aim of *Germania*, which has a large membership in all the universities, is to obtain larger national liberty through political activity.

The *Universitaetsburgher* (Citizen of the University) enjoys greater privileges in Switzerland, Austria, and Germany than the *Staatsburgher* (Citizen of the State).

A certain abbot asked Anselm :—" What can we do to our cloister scholars ? They are perverse, day and night we cease not to chastise them." Anselm suggested gentler methods.

(*m*) A complete education should also prepare its recipients for the duties of war The present war has shown that the Empire needs the help of India for its continuance and preservation in the world-struggle of the future. In the words of Plato " we need a finer sort of training " which should produce cultured Athenians imbued with the spirit of Sparta, who should be philosophers with sound health, not shaken by accidents of diet, and possessed of vigilant minds with spirited bodies. The Germans under the strong influence of the war in 1806 went to work for a military reconstitution of their people and Wilhelm von Humboldt made the University of Berlin one of its most active agents and succeeded in building a military nation. The universities of India should read the signs of the times and teach their students to bear arms. Sir Norman Lockyer says with regard to rifle drill :—" It can be done by having in an institution like this a gallery, hall, or passage, or whatever you like to call it, something like 25 yards long, and the practice with the miniature rifles is so effective that I heard of a case the other day in which a boy who had been made acquainted with the handling of a rifle in this miniature way, when he went down to a real butt, put six shots at 600 yards into the bull's-eye out of seven ".

The universities should make men of their students and teach them habits of military discipline and self-respect and the principles of honour and patriotism. Justice Mahmud in his " History of English Education in India " writes that the cause which has retarded education among the Muhammadans of India is that a superiority in arms is regarded as more excellent than superiority in wisdom. The universities should see that the future generations of India are not only possessed of a superiority in wisdom, but also of a superiority in arms. Both academic education and training in arms should aim at giving a military

ABDURRAHMAN, Dr.—*contd.*

character to the vast population of the great Indian colony of the future British Empire.

(*n*) " Special institutions are maintained for the education of persons 'of European descent, pure or mixed, who retain European habits and modes of life'. " These institutions are mostly schools, but they fall within the scope of this discussion because of their roaction against the general and the higher education of Indians. There are at present no less than 400 such European schools in India. It is not their denominational character which is open to criticism as the "Europeans" of India pay to a sufficient extent for their upkeep, but their unfair competition with Indian schools and colleges. The examinations are so arranged that it is possible even for the backward and the truants to succeed. Promotions are determined throughout the school career of a student by " teachers and *managers* subject to the inspector's approval * * * the only essential examination being that which closes the high school career." This final examination as compared with the matriculation examination of an Indian university is an easy one and comprises English and arithmetic, with a choice of not more than seven out of eighteen so-called optionals, of which three are obligatory for boys and one for girls. A premium is put on primary and lower education by these schools. Students who read no further than the elementary school classes obtain a certificate and are given posts which an Indian graduate is very often refused. Railway appointments, much to the inconvenience of Indian passengers, are almost monopolised by the lower sections of this class. Those who pass the final examination are offered special facilities by the engineering and medical college for further studies and by the various departments for obtaining good posts.

It is unfair to the Indians that two such unequal parallel systems of education should be permitted to exist in the country and those who deserve less should be offered and given more. It is unjust that a community which has been declared by Herbert Spencer and other sociologists to be inferior to Indians should be provided with an artificial environment. It is they, and not Indians, who, if equal conditions prevailed in education, would go under.

(*o*) Another drawback of the Indian system of education is that the students are educated in haste in the schools and colleges. The University Commission of 1902 remarked that the object of parents is to pass their boys through the schools as rapidly as possible. But the commission has absolutely failed to trace the causes of this hurry.

(i). India is a poor country. The late Mr. Gokhale, who was also a great educationist, has thus compared the economic condition of India with that of England. " The average annual income of a person in England is £42, in India £2 according to official and a little above £1 according to non-official, estimates. English imports per head are about £13, Indian about 5 shillings. The total deposits in Postal Saving Banks in England amount to 148 millions sterling in addition to deposits in the Trustees' Saving Banks amounting to about 52 millions sterling. The Indian Postal Saving Banks deposits, with a population seven times as large as in England, are only about 7 millions sterling. and even of this a little over 1-10th is held by Europeans. The English total paid-up capital of joint stock companies is about 1,900 million sterling, while the Indian is not quite 26 millions sterling and the greater part of this again is European. Four-fifths of the Indian people are dependent on agriculture which has been for some time steadily deteriorating. Indian agriculturists are too poor, and are, moreover, too heavily indebted, to be able to apply any capital to land, and the result is that the greater part of Indian agriculture is, as Sir James Caird pointed out more than twenty-five years ago, only a process of exhaustion of the soil, and the yield per acre is steadly diminishing."

The number of those in service in England is twice as much in proportion as the number of those in service in India; the number of those employed in com-

ABDURRAHMAN, Dr.—*contd.*

~~more in~~ England is thrice as much in proportion as the number of those employed in commerce in India, but the number of those employed in agriculture in England is in proportion less than 1-6th of those employed in India.

The poverty of India, as is proved by the above and other independent statistics, such as those prepared by Digby and Giffen, is extreme. The pressure is so great that there is not even a potato-philosophy of wages at the back of the poor, but famine and starvation. All the detailed statistical account should suffice to show that the education of his children is a matter of great personal sacrifice to the Indian parent in general. Many an Indian home of very small resources, and even of poverty, has to go without sufficient food and necessary clothing that a son may be educated. The tales of the self-denial of parents practised in order to get an education for their son or sons are such as gladden and sadden the hearts of all who hear them.

It requires no elaborate reasoning to convince any person that under such a crushing weight of poverty the Indian parent in general cannot afford to take his son at a slow and steady pace through his school and college education, but has constantly to urge upon him the need of haste. The loss of a year means irreparable loss of money spent, an unbearable recurring expense, and great disappointment and despair.

The same applies more or less to the classes who give higher education to their children. The great majority of them consists of members of the lower middle and the middle classes. The decrease in the purchase power of money and the increase in the standard of living that has taken place, and is taking place, every day in this country (irrespective of all war considerations) has reduced their paying capacity to a very low level. The Englishman it is said has to educate his daughters also, whom the Indian generally keeps ignorant, or does not send to school. But this does not constitute a saving as the Indian has to give his daughters a heavy dowry, which represents the accumulated labour of a great number of years, proportionately much more than he would have paid if he had been an Englishman and given them a good education. The Indian has almost in every case also to support a number of relations, near and distant. The English family consists of a wife and children alone.

Lastly, there are those who say that the fees in Indian schools and colleges are, proportionately speaking, much less than they are in England and Europe, but these critics conveniently forget to note that the amount spent by Government in England and by European governments on education by far exceeds the differences between the fees to which attention is so insistently drawn. A set-off will conclusively prove that the amount of fees in India is greater than in any country in the world.

If the Commission desire that education in India should be acquired without that hurry which renders the proper assimilation of knowledge by the student impossible, and kills the sense of pleasure which should accompany the pursuit of learning, it should look upon the question of fees from a liberal point of view and with a democratic intention. All fees in primary and secondary schools and colleges should be appreciably reduced to remove the serious obstacles that have arisen in the way of Indian parents. A student should be able to pass from a primary to a secondary school and thence to college without much difficulty in paying his way.

(ii) Another cause of hurry which affects the poor and other classes alike is the rule laying down an age limit of 25 years for entering Government service. Parents are always anxious to pass their sons through their student life as quickly as possible lest they should by any accident of health or failure in examinations reach the goal of their studies too late.

The best way to obviate this difficulty is to keep the age-limit at 25 for students who have passed the matriculation examination and raise it to 26 for the

intermediate undergraduates, 27 for B.A. graduates, and 28 for masters. The maximum increase will not exceed three years and will result in the efficiency of the service all round. And it will give the students a chance of going up to the highest rung of the ladder of the university at a slow and steady regular pace and will afford that leisure which is essential for higher learning and to pursue independent investigation in any branch of an art, science, or other knowledge.

(*p*) "A kind of dwarfing and stunting of the Indian race is going on under the present system. We are made to live our life in an atmosphere of inferiority and the tallest of us have to bend in order that the exigencies of the system may be satisfied. The upward impulse which every boy at Eton or Harrow may feel, that he may one day be a Gladstone, a Nelson or a Wellington, and which may draw forth the best effort of which he is capable, that is denied to us."

"The schools differentiate between British and Indian teachers; the colleges do the same. Students see first-class Indians superseded by young and third-rate foreigners; the principal of a college should be a foreigner; foreign history is more important than Indian; to have written on English villages is a qualification for teaching economics in India: the whole atmosphere of the school and college emphasises the superiority of the foreigner, even when the professors abstain from open assertion thereof. The Education Department controls the education given, and it is planned on foreign models and its object is to serve foreign, rather than native, ends to make docile Government servants, rather than patriotic citizens; high spirits, courage, self-respect, are not encouraged, and docility is regarded as the most precious quality in the student: pride in country, patriotism, ambition, are looked on as dangerous, and English, instead of Indian, ideals are exalted."

AHMAD, Sayid ASHRAFUDDIN, Nawabzada, Khan Bahadur.

In my opinion, the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. The system of imparting education by prescribing a number of books in a subject limits the pursuit of students to the courses of the prescribed books only. If the system of lectures, instead of the system of education by books, be introduced the scope of acquiring knowledge and the opportunity of grasping the subjects thoroughly will be much increased. The students in that case will be more able to give full play to their mental powers and their development. The effectiveness and the utility of the lecture system has now begun to be fully recognised and appreciated by advanced countries such as America and others. But it is necessary that the tutorial system should also be introduced side by side with the lecture in order to supplement it with further force, and that students should have opportunities of frequent and free intercourse with their lecturers and tutors. This will afford them occasions to refer their difficulties to the lecturers and have them removed by discussing with them. The habit of discussion engendered by this method will sharpen their mental powers, as well as help them in their after-life, when they are required to decide a matter for themselves. This will produce at the same time in them decision of character. The present system, on the contrary, puts a curb on their mental development and does not afford them an opportunity to give full play to their abilities.

AHMAD, KHABIRUDDIN.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training for the following reasons:—

(*a*) The present system of university education does not aim at the development of the mental faculty of students. The main aim of university education apparently is to prepare men for "State service".

(*b*) The professors and teachers do not render necessary and adequate help to students to create in them a spirit of investigation and research.

(*c*) The efforts of the teachers and the taught appear to be mainly directed towards success in a particular examination and for this purpose cramming is the only system adopted.

(*d*) The combination of subjects are sometimes not quite suitable to students. They have to take up such subjects as the circumstances of a particular college permit. This very often goes against the natural taste or predilection of a student.

(*e*) There is at present no provision for the practical problems and necessities of life. Indian tastes, sentiments, and the formation of character of youths have been lost sight of.

AHMED, Maulvi KHABIRUDDIN.

I do not think that the existing system of university education in Bengal affords to young Indians of ability full opportunity of obtaining the highest training. To me the system appears to be deficient in the following respects:—

(*a*) There is very little scope for developing originality and resourcefulness in the student.

(*b*) Under the existing system much greater attention is paid to theoretical than to practical knowledge.

(*c*) No training is given in most of the technical branches of knowledge which are necessary for the advancement of India.

AHMED, Maulvi TASSADDUQ.

By "highest training" the Commission evidently means the uniform development of the man, physical, intellectual, and moral. Judged by this standard the existing system of university education falls far short of the ideal.

There is a decided lack of uniformity in the growth of our university men so far as the three aspects specified above are concerned. In some we find the tendency of ministering to the development of the body very strong, at the expense, in many cases, of the other two. Games occupy a major portion of their time at the university. They become healthy beings, no doubt, but the culture of the mind is not sufficiently attended to. In others, again, all the time and energy are devoted to the cultivation of the intellect, even to the detriment of their health. The more they proceed with the university course the more broken down in health do they become. In fact, some leave the university physical wrecks. With regard to the third aspect there is little or no attempt at bringing into prominence this side of life. That man is a moral being is taught, if at all, more as a precept than as a guiding principle for the conduct of life. This want of balance in the growth of our young men is a great drawback of our university education. Again, the system of education (except that provided for in the professional colleges) is too literary, too bookish to be of any practical value in this age. Whether it be in the domain of politics, or administration, or commerce, we are more prone to theorise, to formulate schemes, than to do things practically. Originality is a thing almost unknown to the majority of our university men. All are cast in the same mould, all are made to order. The dull monotony which characterises our present educational system seldom brings out individuality in our young men. For want of a proper development of the moral side we are deficient in what is known by the term "character." There is no grit in us. Self-discipline is not in our line.

I do not deny that there have gone forth from our University men whose names will live in history for all that elevates man, but what I have spoken above is about the generality, and it is with them that the future of the country depends. I ascribe all this defi-

ciency to the fact that originally our University was created with the object of turning out men for the public services only, and we have not yet been able to divest ourselves of this idea of being made so many clerks or assistants after coming out of the University. To my mind, our University, which is our *Alma Mater*, should not only equip us fully for the battle of life, but also provide us with what Cardinal Newman called a "liberal education."

AIYER, Sir P. S. SIVASWAMY.

The existing system of university education does not afford full opportunities for obtaining the highest training in all subjects. If Indians educated in the University have achieved any distinction it is, to a large extent, in spite of the disadvantages of the present system. In some subjects, like Oriental languages, while scholarship of a certain kind may be acquired in Europe real depth of erudition can be only acquired in this country.

The deficiencies in the present system of university education are :—

(*a*) The paucity of teachers, who have distinguished themselves by original work

(*b*) The absence of an academical atmosphere.

(*c*) The unwieldy size of the classes and the want of an adequate number of teachers, which reacts both upon the teachers and the taught.

(*d*) The absence of the tutorial system which, however, can achieve the best results only when combined with the residential system.

(*e*) The disheartening emoluments and prospects of the Indian branch of the Educational Service in consequence of which the best talent in the country is too often diverted from the field of education.

(*f*) The absence of fellowships for the encouragement of learning and research.

(*g*) The deterioration in the standard of teaching in the high schools.

(*h*) Last, but not least, the crushing intellectual burden of having to acquire knowledge through the medium of a foreign language, especially in the high school course.

N.B.—My answer to this question should not be regarded as committing me to any particular view with regard to questions of recruitment to the highest educational service in the country.

ALI, The Hon'ble Mr. ALTAF.

I do not; the present system is defective in so much as the entire attention of the student is centred on the university examinations that he has to go through. His object in entering the university is merely to get the degrees, and not to acquire knowledge. The criterion of learning now is the passing of the prescribed examinations. The University should be a teaching university, and not merely an examining institution, as it now is.

ALI, Saiyad MUHSIN.

No; the chief defects of the existing system may be summarised as follows :—

(*a*) The practical side is very often subordinated to the theoretical.

(*b*) Teachers of the stamp required are not employed because of their being not easily attainable.

(*c*) A considerable percentage of the teachers does not adopt teaching as a profession.

(*d*) The absence of opportunities for creating a university life or university atmosphere in the mufassal.

(*e*) The want of necessary funds.

ALI, Nawab NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur—ALLEN, H. J.—ANNANDALE, N.

ALI, Nawab NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur.

I do not consider the existing system of university education affords full opportunity of obtaining the highest training because it aims at making the student efficient in English first and other subjects afterwards. Besides, the want of trained teachers and other requisites for intelligent teaching are sometimes wanting or defective, the authorities simply satisfying themselves with naming the subjects to be taught without undertaking to supply the necessary equipment.

ALLEN, H. J.

I do not consider it likely that any university affords full opportunity of obtaining the highest training, but the Indian certainly falls behind the British (in which I include Irish as well as Scots) in this respect.

The Indian college at its best stands, I take it, somewhere between a good school and a college of the Oxford or Cambridge type in point of intellectual (not social) resources; at its worst it falls very short of this and the worst have, I fear, been not uncommon in the past. The standard of a university consisting of such colleges must be comparatively low. Public opinion, again, is not "on the side of the angels"—quite the other way. This is perhaps the least hopeful fact in Indian education. An academic "law of gravity" exercises a constant and powerful pull-down and can be resisted only with great difficulty. Even with a nominated senate this is so; what will happen under an elected majority is, I think, fairly certain.

Closely connected with the demand for a full pass list and a facile first class is the danger of educational questions being decided on grounds other than educational. The senate as a jumping off place for a soaring politician is possibly not unknown in other countries, though examples do not readily occur to me. In India, however, so valuable is a seat in the senate that the politician even "in flight" keeps one foot in the university; his educational interests help his politics, while his politics enable him to exercise in educational issues a quite artificial influence. Needless to say, with public opinion as it is, his views do not usually coincide with those of the "educational expert", that moral and intellectual ogre of a portion of the Press.

The racial and the political questions tend to combine, and evidence of this in the division lists of the senate is, unfortunately, not wanting. To some extent, doubtless, difference of standard makes for the division. The European with the British university in his mind regards a question from a different angle. But were this the reason we might expect such division lists to diminish, whereas they appear to be on the increase. It is unnecessary to dwell upon the disastrous results of such a line of cleavage.

These appear to me to be the chief conditions creating the atmosphere of Indian higher education at present. In this atmosphere university standards and organisation have to function and until the atmosphere contains more elements of health, Indian universities will fail "to afford to young Indians of ability full opportunity of obtaining the highest training". The fact that only a dozen years after Lord Curzon had "reformed" the Calcutta University it has been found necessary to bring a Commission from England to repeat the performance appears to me a sufficient proof of my assertion.

ANNANDALE, N.

I do not think the existing system of university education in Bengal affords to young Indians of ability full opportunity of obtaining the highest training. That Bengali opinion does not altogether approve it is shown by the fact that many young Bengalis go to Europe, America, and Japan to obtain special training, or even for ordinary education.

ANNANDALE, N.—*contd.*—ARCHBOLD, W. A J.

I believe that the main reasons why the existing system is deficient are:—

(*a*) The enormous number of students and the impossibility of giving individual training.

(*b*) The fact that, the University, having been instituted frankly as a copy of the London University, has produced no new thing and has not adapted itself in any respect to Indian conditions.

(*c*) That, although there is nothing inherently Indian in the University, there is a tendency in it to confound all questions with racial politics.

Clearly, there are only two ways of dealing with the number of students: either it must be reduced, or else that of professors and lecturers enormously increased.

It is, I think, a bad augury for university education throughout the East that it has remained essentially mimetic. I was struck with this when studying recently in a Japanese university even more forcibly than I have been in India. I can see no reason why Indian students should follow a curriculum based entirely on one that has perhaps already served its day in England. It seems to me that without in any degree lowering the standard of real education the subjects studied might be greatly reduced in number, and a great deal of mere pretence removed from the syllabus, with advantage. I was once a member of the board of studies in experimental psychology. None of the members of the board seemed very clear as to what experimental psychology meant and I was told that my own views on the subject were too materialistic and that, therefore, experimental text-books which I proposed must be ruled out. The discussion, however, was purely academic as there were no students in the subject and no likelihood at the time of there being any. I do not think that experimental psychology is the only subject that has a status of the kind on the syllabus. The one essential point seems to me to be the teaching of English as a living language, rather than in the form of English literature, *i.e.*, annotated editions of the English classics.

It is extremely difficult to ignore racial politics in a country in the condition of modern Bengal, but I think that they have been given undue prominence in the Calcutta University and that the acceptance of recent benefactions for scientific purposes on the conditions on which they have been accepted, generously as they were conceived, has been a fatally retrograde policy, for these benefactions have made it, to a large extent, unavoidable that professors appointed to organise schools of research—a supremely difficult thing to do, calling for very exceptional qualities—should be appointed from a narrow field of candidates among whom it was mathematically in the highest degree improbable, considering the small number of Indians with any kind of scientific training, that the men best qualified for the purpose should be included. I am convinced that, if the spirit of research is to be fired in Calcutta, or anywhere else, fitness (which is quite a different thing from "qualifications" in the academic sense), and not race, must be accepted as the fundamental thing. That it is not impossible even in Calcutta to avoid the introduction of racial politics into discussions connected with learning is proved by the history of the Asiatic Society of Bengal, on the council of which Europeans and Indians have met, and meet, on an absolute equality, often with an Indian in the chair, and no racial feeling has been incited. Complaints are often made that the different branches of learning are not equally represented on the list of presidents of the society, but I have never heard a complaint that Europeans or Indians were appointed to office otherwise than on their personal merits.

ARCHBOLD, W. A. J.

I assume that this question refers to Bengal and, if so, I answer it in the negative. The proof of the failure is to be found obviously in the results. And the Commission would hardly be sitting if the University had proved a success.

The condition of things varies naturally very much in different colleges, but I should say generally that the existing system is deficient in regard to:—

(*a*) Training of character, in the general sense that the resulting man is not what he might be as a useful member of the State.

ARCHBOLD, W. A. J.—*contd.*—Association of University Women in India, Calcutta Branch —AZIZ, Maulvi ABDUL.

(*b*) Training of the mind, in the sense that we do not get sufficient scholars, or even well educated men, who retain a cultivated habit of thought and interest in after-life.

(*c*) Care for health, in that there is not in most cases sufficient attention paid to the conditions of living, and that the proper organisation of games is often wanting.

Association of University Women in India, Calcutta Branch.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training.

Generally speaking, it is deficient in regard to the teaching given and the curriculum prescribed.

(*a*) It does not pay sufficient attention to the development of the mind. It gives full scope to the exercise of the mechanical memory: but it cannot be said to develope the selective memory of the student.

This defect is to be traced in part to the teaching in schools, and to the inadequate knowledge of English which prevents students from grasping what is said in lectures.

(*b*) The syllabus is non-intelligent in the subjects which it groups together, or which it leaves to the candidate to select in one group.

(*c*) The methods and standards of examination are to be deprecated—value is put by students upon the acquisition of a degree, rather than on the learning or culture for which the degree, should stand.

(*d*) The right ideals and the true objective of a university course are not generally put before the student at any time of his career. He is not encouraged to connect his study either:—

(i) with scholastic excellence (*i.e.*, with things intrinsic), or

(ii) with the work in life for which his degree should be preparing him (*i.e.*, with things practical).

AZIZ, Maulvi ABDUL.

No; it entirely loses sight of the most needful, the most vital, thing not only for one's own individual perfection, but also for the improvement of society at large in every relation of life. I mean the formation of character without which training for the general improvement of intelligence and knowledge does more harm than good. But formation of character requires a deep and implicit faith in religious principles. Religious instruction, therefore, should be a part of the University training, inasmuch as the first impression which lasts longest is received in the course of their university career and after this period when the students enter into the bustle of worldly life little time is left for religious studies.

The present system does not give an education, excepting in medicine and law, which will enable the students to earn their livelihood by any independent profession. So they all hanker after service and as it is not possible to provide employment for a gradually increasing number of outturns of the University, the result is a widespread discontent prevailing among the so-called educated class. This question alone requires some modification in the existing system. At present, the students seek university education simply to secure Government service and so they try to pass the examinations by any means conceivable. Acquisition of knowledge purely for its own sake has thus been thrown in the background. The object of education thus being reduced to a contemptibly mean point is being defeated.

Knowledge should be acquired for its own sake and a man's actions should be regulated according to the principles learnt in the course of his educational career. But the examples of the results of present education are the very reverse of this doctrine.

BANERJEA, HARIPROSANNA.

"The universities of India are but factories where a few are manufactured into graduates and a good many more wrecked in the voyage of their intellectual life." They have created a complete divorce of education from our everyday life and feelings. If the object * of university education is to be "not only the best training for the conduct of life, but also the best, if not the necessary, introduction to all those professions and callings of which it may be said that practice and progress are closely connected and constantly reacting on each other," surely the system of Indian education is a total failure. This is borne out by the fact that our universities have turned out very few people who have added to the world's stock of knowledge, have helped in any way to discover truth, or have, in the general case, become successful in other walks of life. And yet the potentialities of Indian students are great. We see that many of our students, not necessarily the best of their year, easily obtain distinction when they go to a foreign university. Our studies are given up for good immediately our examination is passed, and do not form a part of our life at any subsequent time. Such being our educational system its characteristic defects are :—

(*a*) It rather fills the mind of a student with facts and theories, than call forth his own individuality and stimulate him to mental effort. The result is that the true end of education, which is a philosophic unification of all facts and theories into one homogeneous whole through the slow process of reflective thought, is never achieved. Thus, while we require intellectual food we receive only hard and dry stones.

(*b*) The tests for granting degrees are so indiscriminate that they affect injuriously the education which is the real end of the university to give. "They only afford a chance of scraping through with a minimum amount of knowledge and a turn of good luck." At best, it is only a test of memory, and not even lasting memory. It thus encourages students to take whole sciences on faith and commit demonstrations to memory so that, when their period of education is passed, they throw up all they have learnt in disgust, having gained nothing really, except perhaps the habit of mechanical application.

(*c*) It does not afford sufficient facilities to those who intend to seek truth, and it has failed to recognise the labours of those who, by individual application and thought, have attained to truth. It places on a footing of equality experts and raw graduates, and does not really believe that *indigenous talent, under favourable conditions*, is as good as any other. Further, it holds out few inducements to its best products to stick to education and, thus, does not attract the best brains that can influence for good the whole nation which is in the forming. The European professors, to whom we are asked to look up, are people the average qualifications of whom are at present a third class degree of Oxford or Cambridge (*vide Modern Review*, vol. 22, No. 2, p. 181) and who are generally innocent of any original thought or original research. They do not understand our people, our difficulties, in fact our very modes of life, and have, therefore, little sympathy with us.

(*d*) It is too costly for the middle class people for whom the University is chiefly intended. Further, because it is useless for any other profession than that of pedagogues, every ambitious graduate has generally to go in for some kind of training for the profession which he intends to follow. Thus, he can begin his life practically two or three years after his graduation, with the sacrifice of his time, energy, and money at the altar of the so-called university education. But this he can afford to do in a few cases, the average income of Indians being R30 a *year* and the minimum expense for university education being R30 a *month*. Hence, we have only those people coming to the University who want to take up some private or Government service, or who wish to

* The essentials of a university in a great centre of population (being a reprint of Part II of the Final Report of the Royal Commission on University Education in London), page 7.

BANERJEA, HARIPROSANNA—*contd.*

add a degree after their names. The spirit of India was always culture, not with any idea of trafficking in it, not to make a business out of it, but real education for its own sake. Even to-day she has not been quite able to shake off that worship of the Brahmin who ages ago stood as the symbol of learning and culture. In all European countries, and even in America, there is the aristocracy of wealth, but it has been the proud privilege of India to have an aristocracy of learning. The most powerful kings did not hesitate to bow their heads in sincere reverence to the poor, but learned, Brahmins who renounced every comfort of life so that they might acquire knowledge and attain truth. To the descendants of such a race it is a bitter irony of fate that knowledge has become only a matter of bargain.

(*e*) It is a godless education utterly unsuited to Indian temperament. Its tendency is to place as wide a gulf as possible between the educated people and the mass, to set up the hypocrisy of learning against the sincerity of character, and, in fact, to disintegrate Indian society. Rev. Kalicharan Banerji, sometime Registrar of the Calcutta University, said :—

"Worthy citizens can only be produced by good education, and the highest education is that which is based on a sound religious training * * * * * I can scarcely conceive of a task more sacred than that of inculcating and fostering in the rising generations of India, at an age when impressions are strongest, influences most powerful and habits most enduring, the principles of religion and morality."

Mr. T. C. Lewis, the late Director of Public Instruction, United Provinces of Agra and Oudh, said in one of his reports :—

"The people of India do not seem nowadays to concern themselves * * * about the training of their boys in the elements of common morality ; * * hence it is that any arrangements, however deficient and however faulty, are accepted without complaint or murmur. * * * The ancient seminaries of India were, like those of England, religious, as well as learned, foundations, and *knowledge was not divorced from ethical culture.* But something in the strain and stress of *our present system* has allowed this primary idea to be pushed too much on one side, * * *."

(*f*) It is based on an impossible suggestion that "a second language taught and spoken as such, can ever replace a well-cultivated mother-tongue". "For us Indians it is, and it will ever be, a language in which to commit literary suicide, a tongue which stifles our expressive faculties, a medium of expression which kills all the thinking power of our mind." The only rational method in science, as well as in the art of education, is to proceed from the known to the unknown, to express the unknown in terms of the known. An Indian school boy would, therefore, understand more easily what he sees at his home, in his play-ground, and in his every-day life. He would correctly grasp an idea when it is expressed in the language which he uses at home. The Education Commission of 1882 admitted this fact, and so does the Government of India (*vide* Regulations, Calcutta University, p. xii). The University authorities, however, think otherwise.

They consider it wiser to impart knowledge through English which, at best, is acquired after years of diligent study, and even then "the use of it always requires a straining (however secret) of the mental powers on the part of the greatest amongst us." "A process of perpetual *translation,*" as Professor Jadunath Sarkar ably puts it, "cannot be a mental recreation" (*vide Modern Review*, vol. 23, No. 1, p. 3). If the principal medium of instruction and examination become the mother-tongue an intelligent interest will be awakened in the minds of students for their studies and they will be able to learn and assimilate more in a comparatively short time. In that case a major portion of the present intermediate course may be transferred to the present matriculation, and the three years that students will

BANERJEA, HARIPROSANNA—*contd.*—BANERJEA, J. R.—BANERJEA, Dr. PRAMATHANATH

take in preparing for the bachelor's degree will practically include a portion of the present master's course, so that the M. A. degree may then be reserved for a training in the methods of original investigation. The system will then produce students who may be said to have been benefited by a course of university education at less sacrifice of their time, money, and energy.

From the year 1909, when the new regulations under the Indian Universities Act of 1914 came into force, an effort has been made to remedy some of these defects. *Bángla* has been made compulsory up to the bachelor's degree and students are allowed to answer their history paper in the matriculation either in English or in their mother-tongue. The Calcutta University opened the post-graduate classes in 1912. About the same time, a number of chairs were endowed for various subjects, with distinguished men from all parts of the country to adorn those chairs. Already a school of chemistry had sprung up, with very little encouragement, under the able guidance of Dr. P. C. Ray. Some of his students have done striking pieces of original work, obtaining recognition, and grants from foreign societies. A school of applied mathematics is coming into existence under the influence of Dr. Ganesh Prasad, and during the short three years of its existence has attracted fifteen of the most brilliant graduates of the University, of whom ten have done really original pieces of work (*vide report on the present state of higher mathematics in the Calcutta University, by Dr. Ganesh Prasad*). The number of scholarships is, however, very limited. Students in Bengal, coming as they do from the middle class people, are too poor to afford another two years' training for research work after having already spent so much during the six long years of their university life and, therefore, do require some financial help in the nature of scholarships or appointments in some college to enable them to work under the various professors. These students only require enough to meet their ordinary expenses. In the arts subjects there are no scholarships. Therefore, it is not the material that is wanting, but more scholarships, more facilities for work in the nature of research grants and fellowships. It should also be the aim of a big teaching university, such as the Calcutta University is becoming, to attract young men of ability from other parts of India who either have obtained the doctor's degree, or intend to proceed to it, and relax, in their cases, the rules for admission to such degrees and recognitions which, at present, it seems to guard with such jealous care.

Under the new post-graduate scheme the University has tried to employ the best teachers in all subjects from different parts of India. What the actual result will be will depend upon other factors, *viz.*, the remedy of other defects. But the education of the people of India will be more efficiently, and more successfully, carried out by the people of the soil who will be able to understand the students, sympathise with them, mix with them, and help them in every way possible. Moreover, Indian teachers will not only be cheaper, but their experience will *always* remain in the country and will never become a dead loss.

BANERJEA, J. R.

The existing system is deficient because the number of chairs in the University is very limited, and we do not always get men of the highest distinction or ripe scholarship to lecture or stimulate and guide research. Besides, there is much room for improvement so far as some college libraries and laboratories are concerned.

BANERJEA, Dr. PRAMATHANATH.

The existing system of university education has produced men who have distinguished themselves in the different walks of life and have rendered service to the community in a variety of ways. But, speaking in a general way, it may be said that this system

does not afford to young men of ability the fullest measure of opportunity for carrying on original investigations and developing the power of independent thinking. It does not always help to bring out the best that is in the students, and very good material thus often runs to waste. An attempt is, however, now being made to remedy this defect by the system of post-graduate instruction, which has been recently started. But a method ought to be devised by which the habit of independent thinking could be encouraged from the earlier stages of a student's career. It would be a very good thing if we could study the special aptitudes of each student and help him to develope his mental powers in his own way. This, I admit, would be a very difficult responsibility for the University to undertake, and success could be attained only after years of experiment, and by the expenditure of large sums of money; but I think a few steps might well be taken in this direction at once. I consider it necessary to add that the comparative lack of original work in this country is due only in part to the existing system of university education, the political and social environment being largely responsible for the defect.

Another drawback of the existing system of university education is the absence of any provision for imparting technical education, which leaves many of the capacities of our young men undeveloped. It is this defect which accounts for the overcrowding of the learned professions and is responsible, in no small measure, for the industrial backwardness of the country. It is high time, therefore, that the University directed its earnest attention to the adoption of methods of instruction tending to the development of the resources of the country, and also to an encouragement of the fine arts.

The neglect of physical education is also a defect of the present system. This is very much to be deplored, especially in view of the fact that the University examinations put a severe strain on the nerves of our students and stunt their normal growth. As the health of the young men is one of the greatest assets of the nation it is incumbent on the University authorities to remedy this defect without any loss of time.

I may observe in this connection that the fact that instruction is now imparted through the medium of the English language prevents our educational system from producing the best results. It not only involves a great and unnecessary waste of time and energy, but teaches our boys to attach importance to words, rather than to thoughts, to forms, rather than to substances.

BANERJEE, GAURANGANATH.

"..... Education must be dovetailed into industry and into all kinds of wage-earning employment by co-operation between the public authorities, the parents of the young people, and the individual employers concerned. But in such a course of continued education something more than purely technical or commercial training is required. Preparation for the duties of citizenship is not less indispensable than preparation for a trade. And preparation for the duties of citizenship means that the schools must endeavour to impart a civic and moral ideal. ..... Now both Europe and America recognise its truth."—*Dr. M. E. Sadler.*

I think that the above should also be the motto and ideal of the University of Calcutta. The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. The present university system in Bengal falls far short of the systems of university education now in vogue in Europe and America. I think that the Calcutta University system is defective in the following respects:—

(*a*) It is too theoretical. Practical manual training of a useful character should form a part of the school curriculum. The experience of the Montessori method has revealed the extraordinary possibilities of educating children through manual activities. The success of this scheme should lead to many experimental schools on the same lines, and it should also encourage the extension of educational hand-work in the elementary schools in Bengal. The scholars of secondary schools, in the same way, should receive instruction in manual work. Each school should have its workshop, where every boy should have

training as a regular part of his work. But, apart from the workshop and the conventional forms of manual training, we are still far from realising the possibilities of hand-work as help in the class-room in nearly every subject taught. There is an absence of synthetic treatment. If, for instance, the students of a school could construct, under skilled guidance, a model of an old building, the construction of the building should not be thought of as an end in itself. Apart from the manual skill which would be cultivated, and the actual joy to be got out of the work itself, the whole operation should be made the means of teaching a number of related subjects, *e.g.*, history, architecture, hygiene, geography. Manual training is not to be regarded as the end of culture, but the means of culture. Not only does the hand-work develope intelligence, but it raises the level of attainment in all other branches of instruction.

(*b*) It completely ignores physical training and *instructions morales et civiques*. Organised games both in the play-ground and the playing-fields should form a regular and daily feature of the curriculum of schools and colleges. In connection with the organisation of play notice should be taken of the remarkable developments which have taken place in Manchester, Birmingham, and most other towns in Great Britain in promoting the outdoor life of schoolchildren. In these towns a large number of people of good-will have been brought together and have given their time and service in organising and supervising the play of the children in parks and other public places. The result has been, in most cases, very satisfactory and experiments have been uniformly successful. But, in addition to organised games and play, regular and scientific physical training is necessary in all our schools, elementary and secondary, as also in colleges. Moreover, there is to-day complete unanimity of opinion respecting the value of medical inspection of schoolchildren. The most efficient, as well as the most economical, plan appears to be that of the school clinic where a doctor would attend periodically for the treatment of the children requiring it, and where physical records and measurements would be kept. The clinic would be probably unnecessary in every school as in big centres one group of schools would be sufficient. This system should also be extended to colleges. Moral instruction should also be regularly imparted to schoolchildren.

(*c*) Many of the callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of university training is required, has been most carelessly omitted from the university curriculum. [For a detailed list of these please see my answers to questions 6 and 13.

(*d*) There is a complete lack of facilities for independent study and investigations. [For the causes *vide* my answers to questions 2 and 3.]

(*e*) It involves too early specialisation. There ought not to be any bifurcation of courses up to the matriculation standard. A matriculation candidate should at least possess an elementary knowledge of the more important branches of arts and sciences.

BANERJEE, Sir GOOROO DASS.

I do not 'consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training', and the defect, I think, lies partly in the system, and partly in the working of it, which may, at any time be good or bad according to the personnel employed. To make my answer clear I should state that by the 'system' I mean the body of rules and regulations of the University, and by the 'working' of the system I mean the body of persons engaged for the time being in working out those rules and regulations and the 'manner' in which they work.

(i) The main defects in the system, that is, in the rules and regulations are:—

(*a*) The imparting of knowledge to Bengali students through the medium of English, a *difficult* foreign language, difficult by reason of its *stock of words*, as well as

by its *structure of sentences*, being so very different from those of the Bengali language. The learner has not only to learn the subjects of study, but has also to learn the language in which those subjects are taught, that is, he requires the *explanation* of the subject matter *explained* to him. This not only overtaxes his time and energies, but also cramps his thoughts which cannot expand beyond his foreign language range, which is very limited.

(*b*) The encouraging of a wrong method of teaching English up to the matriculation stage, that is, the method which seeks to make boys learn English by copious, and, therefore necessarily superficial, reading of a large number of books, in preference to the method of thorough and careful reading of a few selected text-books in literature, with a text-book in grammar. Copious rapid reading may help to make one a ready writer and speaker in his vernacular, but not in a difficult foreign language, which can be learnt correctly only by close and thorough reading of a few well-chosen books and a text-book on grammar at the early stages of the student's progress.

(*c*) The allowing of bifurcation, specialisation, and a multiplicity of options at an early stage, which may, and does, lead to the neglect of important subjects like history, geography, logic, and physics, the elements of which ought to be known by every student. Under existing conditions, one may become a B.A. without having even turned a page of history, geography, logic, or physics.

(*d*) The preferring of quantity to quality of knowledge in the higher courses of study, and making those courses so long as to render thoroughness practically unattainable by the majority of students, and attainable, if at all, with great difficulty, only by the most intelligent and diligent.

(ii) The main defects in the working of the system are:—

(*a*) That we do not always get first rate men in prescribing the courses of study.

(*b*) That we do not always get first rate men in teaching our students.

(*c*) That we do not always get first rate men in conducting our examinations.

BANERJEE, JAYGOPAL.

The Calcutta University which was merely an examining body has, in the course of the last decade or so, undergone *fundamental* changes in the training it gives and now bids fair to yield really fruitful results as a teaching university of the modern type. Its future expansion depends, of course, on its resources in men and money to enable its colleges to be well-equipped in their libraries and laboratories and manned by the best staff available.

The question of "full opportunity" may be discussed from the standpoints of cultural and humanistic, as also of vocational and scientific, training. In the latter respect the existing provision and arrangements of the University may not be considered quite satisfactory. It cannot be fairly claimed for instance, that the desired results have been achieved with regard to the development in our young men of latent *artistic* capacity, of scientific ability of the highest order, of industrial inventiveness and capacity for "business", and of effective citizenship in full measure. "Passive receptivity" tending towards "bookishness" at the cost of "mental realisation" does still exist to some extent and we are, perhaps, not yet free from overpressure due to (1) multiplicity of subjects, and (2) multiplication of examination tests.

Promising material in enthusiastic young scholars capable of carrying on research in their special subjects abundantly exists and, as a matter of fact, in recent years really high class work has been done by some of our brilliant graduates under the able guidance of a distinguished university professor like Dr. B. N. Seal in the fields of economics, history, and philosophy. For this kind of valuable work it is *absolutely necessary* that university professors should possess a thorough and deep first-hand knowledge of local conditions, combined with a mastery of eastern and western methods of

investigation. In the case of scientific subjects these professors must have the additional qualification of expert training in Europe and remain in touch with the latest advances made in the West in the different branches of theoretical and applied science.

Provision will also have to be made more liberally for post-graduate scholarships, exhibitions, and stipends as to their number, amount, and duration. Lastly, due recognition by the University must be made of new "values" born of changed circumstances and interests—especially in the case of political and economic problems.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

I regret to have to say "no" in reply to the first question. The existing system does not afford generally to young Indian students of ability full opportunity of obtaining the highest training.

A large majority of students in the affiliated colleges of the Calcutta University not only those in the intermediate stage, but also those reading for the B.A. and even for the M.A. degree examinations, do not receive a university education at all. The main business of the University is the training of its undergraduates in a way fundamentally different from that of students in the secondary school stage. In a university knowledge should be pursued not only for the sake of information to be acquired, but with a special view to its extension, and in a manner that will lead to the attainment of truth, by methods of independent work carried on in an enquiring spirit. The value of study in any particular subject arises not out of the matter which is dealt with, but out of the manner in which it is handled. It is the nature and aim of the students' work and the conditions under which it is done that form the special features of university training.

The university man should be trained in the way of independent thinking and should not accept on authority alone opinions, views, and beliefs. Once he has acquired this training he will be able to bring it to bear on any problem with which he may be confronted. He will have a liberal culture, a broader outlook on human activities and aspirations, a sound method of independent thinking, and in actual civil life he will prove a useful member, able to hold his own in its struggles. A university is a social institution and, like all such institutions, it is a growth, and should adapt itself to its environment. A university fulfils its ends for the good of society partly by the advancement of learning, and partly also by sending out into the world a constant stream of men who have been trained by its teaching and influenced by its life.

The principal conditions necessary for the realisation of proper university teaching are :—

(*a*) Sound general education.
(*b*) Intercourse between students and between students and teachers.
(*c*) Sound health and young age.
(*d*) Association of under-graduate and post-graduate students.
(*e*) Many-sided activities in social life and games.
(*f*) Efficient teachers, with sufficient salaries as will free them from material anxiety.
(*g*) Limitation of number in each class.
(*h*) Medium of instruction.
(*i*) Method of conducting examinations.
(*j*) Constitution of the University.

The present system is defective in every one of these respects.

Bengal is a large country with a population of over 45 millions. The number of students seeking university education is growing with surprising rapidity. It is the problem of numbers that requires solution. Even the present large number forms a microscopic minority of the youths of school-going age. In the present social and

economic conditions university education is looked up to by all guardians as being almost the only means of earning a livelihood, and guardians make all possible sacrifices for sending their wards to the University. In the present condition of Bengal diffusion of knowledge is as necessary, if not more so, as the affording of full opportunity of obtaining the highest training to young Indians of ability. These form a very small fraction of the total college population. The interest of a very large majority should not be sacrificed to that of a very small minority.

BANERJEE, M. N.

My answer is in the negative. Want of means, want of financial resources, and scarcity of first-rate men are more to blame than the system.

BANERJEE, MURALY DHAR.

No.

It loads the memory with unassimilated information instead of training the higher powers.

(Remedies are suggested in my answer to question 16.)

BANERJEE, RAVANESWAR.

I do not consider that the present system affords full opportunity to our young men of ability for the highest training.

It is deficient on the scientific side, *i.e.*, in agricultural, commercial, medical, and other applied sciences. Even in such subjects as mathematics there is no provision here for the highest training and, therefore, students are compelled to go to England.

BANERJEE, SASI SEKHAR.

It is difficult to answer this question as it presupposes a full knowledge of the conditions that obtain in western universities. The highest training involves provision for high scholarship, moral and social responsibility, and an effective loyalty to the best interests of the University. Under the existing system I think the end is attainable. The Calcutta University affords opportunities of obtaining a very high, if not the highest, training. The centralisation of the post-graduate studies in the University is a move in the right direction. The Calcutta University has made arrangements for seminar work and original investigation, has founded chairs in special subjects, and taken steps for the development of the residential system. They all relate to the conditions under which higher training becomes possible. But there is one drawback that the majority of students receiving their training in colleges under the University have not always the opportunity of being placed under the guidance of teachers of first-rate ability and recognised standing. Such men are rare and are out of proportion to the large number of students receiving university training.

It is true that men are drawn to the profession of education by their love of learning and their zeal for original investigation, but these are not the only factors for determining the permanence of their stay in those professions. Adequate emoluments are an additional and more powerful incentive. I should, therefore, suggest that there should be sufficient provision made in colleges for attracting a large number of really capable and learned men and to place students from the B.A. honours stage under their guidance,

BANERJEE, SUDHANSUKUMAR.

The aim of the existing system of university education is to afford to young Indians of ability the full opportunity of obtaining the highest training in almost all the branches of knowledge, as far as is possible in a province like Bengal, which consists of people professing different creeds and divided into different castes, with inadequate help from Government. In attaining the highest ideal the existing system of university education has, however, to meet with considerable difficulties which, even if partially removed, would make its way easier. These difficulties mainly are:—

(*a*) The number of colleges both at Calcutta and in the mufassal is insufficient to meet the demand. Their number must be multiplied and new colleges must be established at new centres.

(*b*) University education should be made less costly in a province like Bengal, where most of the people live from hand to mouth, and where the agricultural people do not know "from year's end to year's end what it is to have their hunger fully satisfied".

(*c*) Primary education should be made free and compulsory. The fees in secondary schools should be reduced to at least one-fourth the present value, and as many free secondary schools should be established in the province as Government and public charities can afford.

(*d*) Arrangements should also be made for the establishment of a number of well-equipped libraries at various centres which do not possess one already.

(*e*) Scientific laboratories and museums must be established throughout the province at all centres of population.

The existing system of university education has to make arrangements to impart technical and commercial training to the people in which very little, or no, attempt has hitherto been made. The State should come forward to help the University in this endeavour.

BANERJEE, UPENDRA NATH.

In these hard days of scarcity, competition, and struggle for existence the question of poverty should on no account be ignored.

As a remedy for the evil there arises the necessity for the introduction of industrial, commercial, agricultural, technical, mining, and mechanical training, necessary arrangements being made for theoretical and practical education in each of these subjects; but, unless there be fair recognition by Government of special proficiency in these subjects, the system will fail to draw the desired attention of the intelligent youths of Bengal.

BANERJI, MANMATHANATH.

The system of post-graduate teaching recently introduced will, no doubt, afford sufficient opportunities to students for obtaining a high class training. I understand by the expression "highest training" the highest standard of training attainable in any subject. I am of opinion that if the scheme of post-graduate teaching is allowed to work properly for ten years it will raise the level of training and culture in this country to such an extent that there will after that period be hardly any need of going abroad for obtaining any sort of university education in any of the subjects now taught here. The scheme will help to produce original thinkers and scholars and at least good citizens. It is, therefore necessary, in my opinion, that the University should take over the teaching work in all stages in certain colleges, preferably Government colleges, all over the province. It should pay equal attention to all branches of study, and open new branches which are not included in the list of subjects, but which claim recognition either on account

BANERJI, MANMATHANATH—*contd.*

of their innate interest, or on account of their suitability to work out the country's welfare. In this connection, however, I would like to make the following suggestions which will contribute to the efficiency of university training and improve the existing system of university education in Bengal:—

For efficient teaching:—

(*a*) Admissions to the post-graduate classes should be more stringent so that students without any previous scientific training may not take up science subjects for their post-graduate study. A similar principle should regulate the admissions to post-graduate classes in other subjects.

(*b*) Specialisation, without a fair amount of general knowledge, is undesirable, and I would like to suggest that the University curriculum up to the B. A. and B. Sc. standards should be raised and so modified as to enable students to have a tolerably good general education. In this connection, I may illustrate my views by the following syllabus which I have drawn up for the matriculation, intermediate, B. A., and B. Sc. examinations.

MATRICULATION.

1. English—3 papers—
   I.—Prescribed texts.
   II.—Composition, essay, and grammar.
   III.—Translation from a vernacular, etc.
2. Vernacular—2 papers—
   I.—Prescribed texts.
   II.—Essay and composition.
3. Mathematics—2 papers—
   I.—Arithmatic, algebra.
   II.—Geometry, mensuration.
4. Histories of India and England—1 paper.
5. Elementary sciences and geography—
   I (*a*) Geography, including physical geography.
   (*b*) Biology.
   II (*a*) Physics.
   (*b*) Chemistry.
6. Sanskrit, or any other classical language—
   I.—Prescribed texts.
   II.—Grammar, composition, and translation.

INTERMEDIATE ARTS AND SCIENCE.

Compulsory subjects.

Arts.	*Science.*
1. English.	1. English.
2. Vernacular	2. Vernacular.
3. History.	3 Physics. Including principles of
4. Logic and psychology.	4. Chemistry. scientific method.
	5. Mathematics.

BANERJI, MANMATHANATH—*contd.*

INTERMEDIATE.

Optional subjects in addition to the compulsory subjects.

Arts.	*Science.*
5 and 6.—Two subjects from the following :—	6.—Any one of the following :—
(*a*) Economics.	1. Physiology.
(*b*) Modern languages.	2. Botany.
(*c*) Classical languages.	3. Geology.
(*d*) Mathematics.	4. Zoology.
(*e*) Any science subject.	5. Geography.
	6. Elementary biology.
	7. Modern languages.

N.B.—Any two may be chosen from each of the subjects (*b*) and (*c*).

B. A. EXAMINATION.

1. English.
2. Vernacular.
3, 4, 5.—Any three of the following subjects :—

(*a*) Classical languages.	(*g*) Mathematics.
(*b*) Modern languages.	(*h*) *Comparative philology.*
(*c*) History.	(*i*) *Comparative politics.*
(*d*) Mental and moral science.	(*j*) *Indian philosophy.*
(*e*) Economics.	(*k*) *Sociology.*
(*f*) *Logic, including Indian logic.*	

Any *three* can be selected from each of the groups (*a*) and (*b*).

B. Sc.

Any *four* of the following :—

(1) Physics.	(6) Zoology.
(2) Chemistry.	(7) Geology.
(3) Mathematics.	(8) Experimental psychology.
(4) Physiology.	(9) *Anthropology.*
(5) Botany.	(10) *Modern languages*—any one of the.

N. B.—The italicised subjects are proposed for the first time.

The honours course in any subject may be regarded as a double subject. In science subjects alternative courses in applied science, may be prescribed, where possible, in lieu of the theoretical course now in force. Provision should be made to limit the choice of subjects by students going in for honours.

(*c*) The University should, as soon as possible, create boards of higher research in scientific subjects and appoint teachers of recognised standing in different subjects to prosecute original research. The persons so engaged should devote their time exclusively to research work and will not, as a rule, be asked to do post-graduate teaching. This is necessary to raise the level of learning in the country and should be the means of training experts who may help in obtaining the highest training in different subjects in the country.

(*d*) *Attention to subjects necessary from the Indian standpoint.*—For the resuscitation of Indian philosophy in the orthodox style, coupled with the object of stimulating the study of comparative philosophy, a chair should, as soon as possible, be founded on Indian philosophy. In academic interest, and for the elucidation and understanding of old texts, the want of a professorship in Indian philosophy is specially felt in this country. The subject is a very important one from the Indian standpoint and, in these days, when scholars of the old orthodox type

are dying out, Indian philosophy should form a separate subject in the University courses. Much has been done in this direction by the lectures of the University professor of philosophy. In this connection, I wish to emphasise specially the claims of the *Nyaya* system. This system received special treatment at the hands of Bengal *panditure* and Bengal was reputed in India as the great seat of *Nyaya* learning. Again, special arrangements should also be made for the study of *Alankara* which in the near future is threatened with extinction for want of culture. What is wanted is the institution of orthodox methods of study and no more research work on historical lines.

(*e*) Provision should be made for the systematic teaching of modern languages in the University, and the want of proper help and guidance from recognised teachers of ability is much felt in this respect.

(*f*) The University should not ignore the claims of indigenous systems of medicine, the *Ayurveda* and the *Unani*, prevalent in the country. The University should do something to stimulate the proper study of the literature on these subjects under recognised masters. There is much scope for study improvement and research in these directions.

(*g*) Branches of study should be founded on Indian theology and scope should be given for specialisation in the different theological systems with a view to further the comparative study of religious and ethical beliefs of different sects in the country.

(*h*) Sociology and Anthropology should form separate subjects of study. Departments of applied science and technology should be opened.

For the encouragement of education :—

(*i*) Provision should be made for allowing any bachelor of the University in any faculty to proceed to the M. A. and M. Sc. examinations as a non-collegiate student, whether or not he had taken up the subject in the graduate stage, provided that three years have elapsed since the date of his graduation and the candidate has undergone a regular course of training in any laboratory affiliated in that subject to the University for three continuous sessions if he takes up a science subject.

( ) Provision should also be made for allowing students to appear as non-collegiate or private students in any examination higher than the matriculation, or in arts and science up to the B. A. and B. Sc., after three years from the passing of the last lower examination. But they should be compelled to undergo a practical training in science subjects if they take up any.

(*k*) *Accommodation.*—Accommodation in the existing colleges all over the province is far from satisfactory. It is, therefore, necessary that there should be a larger number of colleges in the country and I should like more colleges built in the various districts, rather than in Calcutta. This is an all-embracing question which affects the lower stages of university education as much as its upper or higher stages. More colleges of all description, for all faculties should be opened throughout the province. Opening of the departments of technology and applied science will, no doubt, relieve the stress on arts and science colleges.

(*l*) It is necessary to pay greater attention than is the case now to the high school stage. The school should be fully equipped with laboratories for the training in elementary science. The laboratories must contain essential equipment for the efficient teaching of elementary science, which should be made compulsory at the matriculation stage. If this is done we may expect students properly equipped for university training.

(*m*) I would suggest the necessity of creating a strong board of studies which will carefully examine all the books before they are allowed to be prescribed as text-books in the high school stage, *i.e.*, the stage between the matriculation and the middle English standard in the high schools. In this connection, I would also emphasise the desirability of thoroughly examining books meant for university classes by the boards of studies in the upper subjects.

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

The present system of university education, which is based on the system which obtained in the University of London at the time when the Indian universities were founded, has afforded to young Indians ample opportunity of obtaining high educational training. Many of those who obtained university degrees have proved to be men of the highest culture and great efficiency in various walks of life. It should be the aim of every university so to train up its alumni as to make them not only men of learning, but useful citizens, and this object has, in a great measure, been attained. In view, however, of modern ideals the Indian universities cannot be regarded as fulfilling all the requirements of a modern university, and cannot be deemed to afford the best facilities for mental training. The same defects which have been found to exist in the University of London equally, or to a greater extent, exist in the universities in this country. It must be admitted that the system by which degrees are conferred on the result of examinations only encourages cram, and is not always a test of mental ability. The defects of this system are mostly of the same nature as those mentioned in paragraph 83 of the report of Lord Haldane's Commission. These defects may, to a great extent, be remedied by introducing teaching universities. But the difficulty of having teaching universities in this country is very great unless the number of such universities be liberally increased. Having regard to the size of the country, and the vast distances between large and important towns, it is practically impossible to have a few centres only where large universities like that of Calcutta may be established—with a number of colleges at each of these centres all the students of which may be taught by university professors. In order that the universities in this country may be teaching universities it is, in my opinion, absolutely essential that small universities should be established at different centres, and the system of having large and unwieldy universities should be done away with. For example, in the United Provinces, instead of having one large university for the whole province at Allahabad it would be desirable to have small universities at places like Agra, Lucknow, and Allahabad, and all of these should be teaching universities. Benares has already a university of its own and Aligarh may have one in the near future. It would, it seems, be beneficial to the educational interests of this country if the system which has, in recent times, been adopted in England of having smaller universities than the older Universities of Oxford and Cambridge be extended to this country. This, of course, will require a large outlay of money, both at the initial stage and subsequently, for the maintenance of each university, and I need hardly say that it must always be borne in mind that, in every scheme for the promotion and expansion of efficient education, as in everything else, financial considerations should be at the forefront.

BANERJI, UMACHARAN.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training. Many Indian boys and youths go to European and other foreign universities for further study, notwithstanding the great social disabilities which they have to undergo on their return home. Amongst others, the following reasons may be stated:—

(*a*) Lack of sufficient scope for research work in literary, scientific, and technical subjects.

(*b*) The inadequacy of libraries, laboratories, and other educational appliances, particularly in the mufassal colleges.

(*c*) The need of technical institutes and the withholding from Indian boys the right of free admission to European firms.

(*d*) The various intellectual resources available in Calcutta are not at present adequately used.

For broader outlook of life and all-round knowledge it is extremely desirable that some of our promising graduates should visit foreign universities.

BARDALOI, N. C.

If by highest training is meant the thorough mastering of the subjects taken up by individual students there are, apparently, full opportunities for it under the existing system. But, in reality, the existing system is defective and, therefore, students cannot avail themselves of the opportunities given. The education they receive in schools is most deficient. They are crammed with all sorts of things in the lowest classes, and by the time they come to the higher classes they are given the option to select groups of subjects, thereby giving up all chances of acquiring knowledge in some important branches, the absence of knowledge in which renders their education imperfect, as, for example, history, geography, physics, or chemistry. I think the present system is not an improvement upon the old system. I should suggest that up to the matriculation class there should be no bifurcation of courses and that even in the I.A. and I.Sc. classes English, history, and vernacular should be common.

To my mind there is another important fact which will always make any training offered imperfect. It is the absence of an ideal. By this I mean that the teachers, most of whom are not profound scholars devoted to learning, work only for pecuniary gain and try to pass their boys through examinations in as large a number as possible, while most of the boys who study have no definite aims in life. They have a vague idea that they must pass their examinations by all means (sometimes even by stealing question papers), with the hope that they shall either be lawyers or deputy magistrates, doctors or engineers. The result is that what they cram they manage to forget after their examinations and, except in a few instances, they generally fail to obtain a decent living. The University sends them out with its hall-mark, but they become unfit for anything else because the most inpressionable years have been spent in cramming. Consequently, in after-life they become discontented.

I sum up the defects as follows:—

(*a*) School education is imperfect.

(*b*) Teachers are not profound scholars themselves, and do not work unselfishly for the advancement of learning.

(*c*) Students can have no definite aims for which they study and so, for the time being, they make the passing of the examinations their only aim.

Even in the cases of brilliant students their teachers coach them up to compete and not to make them profoundly learned.

BARROW, J. R.

I do not consider that the existing system of university education affords young Indians of ability full opportunity of obtaining the highest training. Of the obstacles which lie in their way some are common to all colleges, some are confined to, or much more apparent in, small mufassal colleges than elsewhere.

The commonest hindrance to a sound university training is the universal overcrowding of colleges. The results of this are twofold:—

(*a*) Classes are in most cases very large.

(*b*) Students of varying degrees of ability are massed together without distinction, and the superior ones are unable to get anything like the requisite amount of individual attention.

It may be urged that there is no special objection to large lecture classes, nor would there be if the mass of students were sufficiently advanced to be able to follow the lectures and take notes intelligently. But this they cannot do, and the few are compelled to mark time while the many are plodding along behind them.

BARROW, J. R.—*contd.*

The massing together of students with hardly any distinction of merit starts from the beginning of their college course. It is perhaps worth pointing out that of 11,270 candidates who matriculated this year 5,879 were placed in the first division, 4,743 in the second, and 648 in the third. There are, it is true, honours courses. But, in my opinion, the honours course is not differentiated sharply enough from the pass course. This may be partly because the pass course aims too high. The honours course is, the pass course with something more added on. More important is the fact that, though the authorities rightly insist on some addition to the staff when a college applies for affiliation to the honours standard in any subject, that addition is not nearly large enough to ensure proper individual attention for the honours candidates. Moreover, the pass course is the normal course. Many colleges are only affiliated upto the pass standard in the majority of the subjects which they teach ; so that a clever boy often finds that he has not the chance of the comparatively slight distinction afforded by an honours degree. It is surely unsatisfactory that even the modest ambition of offering the honours course in every subject taught in a college should be so generally regarded as unattainable. I think Government departments might do more than they do to emphasise the difference between the honours and the pass man by attaching more importance to a good honours degree in making appointments. But, while classes remain so enormous and teachers so few, the prospects of the honours student will continue to be sacrificed, or his claims ignored.

The work of a college in Bengal is almost entirely conditioned by the examinations which have to be passed. To what is this due ? Examinations can scarcely be abolished. And elsewhere they do not exercise such a tyranny over the lives and work of students. I have been for two years the principal of a small mufassal college (small, that is, for Bengal : but it contains over 300 students). Nearly every day there arrives at this college (and, I suppose, at others) a packet of advertisements from the sellers of " keys " with model questions and answers and all the assistance requisite to pass all the university examinations. The sale of these productions must be enormous, and many of those who buy them and make use of them, are by no means wanting in intelligence. The tyranny of examinations affects students of some natural ability (of course, there will always be exceptions), as well as the mass of youths of inferior quality. A very large amount of attendance at lectures is found to be necessary if students are to get through their courses and prescribed books. It is the commonest of complaints that there is far too much unintelligent memorising of notes, and that intellectual interest and originality are sterilised. All this is due to a combination of causes, the poverty of the mental equipment with which most students come to college, and what, in view of that poverty of equipment, must be called the pretentiousness of the curriculum.

As regards poverty of equipment the schools are the root of the whole trouble. And, apart from the obvious defects due to lack of money, which spreads like a blight over all the activities of the school, their deplorable results are due partly to the badness of the method of teaching English (which I shall examine elsewhere, under question 11), partly to the system of teaching everything after the first year or two through the medium of English. Of course, the idea of this system is that thereby the pupil learns English rapidly, and after a short period finds instruction through this medium as effective as instruction in his own language would be. If this system is successful elsewhere it must be a system which is entirely dependent for its success on the skill and intelligence with which it is worked. At the best there must be a definite, and by no means negligible, period during which the pupil, while he is being taught other subjects, is failing to understand a great part of what he is being told. And, here, experience shows that during eight years or so of this method he does not learn English well and, consequently, he learns nothing else well either. It is important to remember also that most of the teachers are unable to speak English with ease and accuracy.

When students come to college they cannot follow lectures, and they cannot read even quite simple English with ease. They find themselves confronted (I am speaking particularly of the English course) with a fairly ambitious programme for their I. A. examination.

This brings me to the other point, the pretentiousness of the curriculum. The I. A. English course at present is as follows :—

Poetry.

Wordsworth	University selections from Wordsworth.
Matthew Arnold	Sohrab and Rustum.
Milton	L'Allegro and Il'Penseroso.
Cowper	The Task, Book IV.

Prose.

Collins	The Odyssey.
Addison's Essays	(University selections.)
Charles Reade	The Cloister and the Hearth, abridged and edited by J. Connolly.

A paper will be set on essay, prosody, and rhetoric, and some questions will be set on unseen passages from works of the same standard of difficulty as those prescribed for the matriculation examination.

This may not seem unduly ambitious when it is considered that the youths who are to take it have spent eight or ten years on English. But the point to be emphasised is that, at the end of these years, they are still without any command of ordinary modern English. Their vocabulary is extremely thin. They know hardly anything of the idiom of the rhythm of the language. In this condition they are set to study "Literature", which depends for the success of its appeal on choice of words, on phrases, and on rhythm ; which is full, moreover, of allusions to the Bible, to European mythology and legend, and to English life and customs and history, with which these boys are almost totally unfamiliar. Preparation for the university examinations, therefore, becomes a struggle to get through the prescribed books in the allotted time, acquiring by any means available some knowledge of the bare literal meanings of words and phrases and allusions. To suppose that the reading of literature in this manner has any value whatever is absurd. And, though I think the fault lies primarily with the schools, the University is to blame because it ignores their deficiencies in its granting of affiliation in its matriculation examination and in the drawing up of its curricula.

Other defects of the university system in Bengal, so far as Government institutions are concerned, are more apparent in the mufassal than in Calcutta. It is in the mufassal that comparatively small colleges teaching mainly pass courses have been established. The proportion of public money spent on English education is not small. But it is not sufficient to build, equip, and staff so many colleges as now exist if they are to be built, equipped, and staffed to do real college work. So far as my experience goes the laboratories are pretty well-found ; but the libraries are poor, and staffs are very much too small.

There is, thus, a general dissipation of energy. The schools fail to do their work, so that much of the work of the so-called colleges consists in making up the deficiencies of the schools, and real college work is neglected.

BASU, NALINIMOHAN.

The recently introduced scheme of post-graduate studies has removed the pre-existing deficiencies of the education system, and I do consider that the present system does afford to young Indians of ability full opportunity of obtaining the highest training in the various departments of education coming within the scope of the University.

BASU, SATYENDRA NATH—Bengal Landholders' Association, Calcutta—Bengal National Chamber of Commerce, Calcutta.

BASU, SATYENDRA NATH.

To young Indians of ability the existing system of university education, if conscientiously followed, should afford ample opportunity for the best training of the intellect, at least in certain directions.

Some, but not all, of the qualities that go to make up character may develope under the present system. But whether it is conducive to " a sound mind in a sound body " is doubtful.

Bengal Landholders' Association, Calcutta.

This association does not think this condition is satisfied by the existing system of university education.

Training depends upon what one is being trained for, but the existing system is without an ideal or a definite ultimate aim.

The country wants education to enable the people to stand on their own legs in every respect, " to prepare them for complete living ", and to give them all-round strength to dovelope their work-power and character-power.

A system originally meant for obtaining efficient clerks and now, to a limited extent, for professional work, is failing to meet the progressive needs of our people. Our University has failed to appreciate that it ought to help the process of nation-building. " It is not inspired by motives which answer to deeper things in human nature and the higher things in human aspiration." It is not based upon things which lie in the hearts of our people. It has little regard for our permanent environments. It is a makeshift, and without a corporate life. It has not been allowed sufficient freedom of growth. Its utility is doubted, and it is viewed with suspicion as tending to disloyalty. There is now undue political surveillance.

There is want of a sufficient number of proper teachers. In Government colleges the foreign element is placed on an undeserved and undesirable basis of superiority. The Indian teacher occupies an inferior position. It is believed that benefactions which favour the employment of Indian teachers even of undoubted merit and ability are not adequately supplemented by Government grants. They are not sympathetically treated, and the work suffers in consequence.

Most of the teachers are too poorly paid. It does not seem to have been realised that the teacher ought to be freed from pecuniary anxiety so as to be able to consecrate his life to his work.

The system suffers from :—

(*a*) Want of funds.

(*b*) Want of sufficient co-ordination of the subjects of study ; of adequate facilities for co-operative work between teacher and student.

(*c*) It suffers from harsh and harassing rules of attendance ; and

(*d*) Stringent methods of examination—which have degraded teaching to coaching.

Bengal National Chamber of Commerce, Calcutta.

For want of proper organisation the existing system of university education is wanting in many essential features necessary to afford full opportunity to obtain the highest training. In Calcutta there are highly efficient teachers in different branches of learning and properly equipped libraries and laboratories. But for want of proper organisation these resources are not being utilised in a proper way for the cause of the progress of higher education.

In the present system there exists no proper provision for training in agriculture, commerce, industrial technology, and applied chemistry. The scope of the University should be widened by making provision for training in those branches.

Bengal National Chamber of Commerce, Calcutta—*contd.*—Bethune College, Calcutta—BHADURI, Rai INDU BHUSAN, Bahadur—BHADURI, JYOTIBHUSHAN, DEY, B. B. and DUTTA, BIDHU BHUSAN.

The suggestions made under (*b*), (*c*) and (*d*) in question 2 include the most important functions of a university.

Regarding (*a*), however, while we approve the growth of a healthy relation between the teacher and his pupils, it is desirable that a student should be allowed to receive training from his own home, or that of his guardians, wherever it is practicable. The relation of a student, who has to live away from home, with his parents and relations, suffers by long and continued absence. This is most undesirable, especially in view of the socio-economic condition of the people of this country. Besides, the object under (*a*) cannot be attained simply by increasing the staff of teachers, far less if the teachers be recruited from foreign lands, as, in that case, students will not in actual life have the society of such teachers, and *vice versa*, which is essential for enabling one to give proper guidance to another.

(*b*) The existing defects under this head admit of being removed provided adequate funds are available.

(*c*) Unless the existing system of examination and the award of degrees are altered no great improvement under this head is possible.

What is wanting most in the existing university system is proper organisation. If this defect be removed the highest possible education is possible under the present University with the resources it has at its disposal and within its reach.

It may be mentioned that of late the University has been making efforts to remove some of its defects, and considerable improvement has already been effected in several directions.

Bethune College, Calcutta.

Roy, Debendra Nath.

There is practically no provision for physical education. Moral education is neglected. The social life of teachers and students hardly exists so that there is a sad want of discipline and comradeship of corporate life under the existing system. Over intellectual education the original narrow ideal of the founders of the Calcutta University has been exerting a cramping influence. The old ideal of the country, *viz.*, education for education's sake, was supplanted, and the University was, at its inception, regarded as the training ground for such Government servants as were required to carry on the practical work of administration in subordinate capacities. Even in the ordinary walks of life the want of instruction in applied sciences on a large scale has made it impossible for the children of this country to compete with the rest of the world.

Janau, Miss A. L.

The years spent in passing examinations under the present system are years in which entirely wrong habits of thought, of proportion, of study, are almost of necessity gradually acquired—habits which would have to be entirely given up before any really good work could be done. These undergraduate years are years " which the locusts have eaten."

BHADURI, Rai INDU BHUSAN, Bahadur.

No ; the existing system is deficient in the following main respects :—

(*a*) Paucity of first-class teachers.
(*b*) Insufficient scientific appliances in most of the colleges.
(*c*) Lowering of the standard of university examinations.

BHADURI, JYOTIBHUSHAN, DEY, B. B., and DUTTA, BIDHU BHUSAN.

Although the noble motto of our *Alma Mater* is, as it should be, " The Advancement of Learning ", it may be generally conceded that this high ideal has, through various causes, not been sufficiently realised in practice. A good deal of progress has, undoubtedly, been made, considering the backward state of learning in pre-university days, and the

BHADURI, JYOTIBHUSHAN, DEY, B. B., and DUTTA, BIDHU BHUSAN—BHANDARKAR, D. R.—BHANDARKAR, Sir R. G.—BHATTACHARJEE, MOHINI MOHAN.

insufficient financial resources at our disposal but there is room for much improvement, especially in the directions suggested below :—

(*a*) There is overcrowding in the classes as the proportion of the number of teachers to that of students is smaller than in other universities. The students, particularly of the colleges in the town of Calcutta, are not in intimate personal contact with the teachers, who have little leisure to exert their influence on the students outside the lecture-halls.

(*b*) The teachers have practically little or no freedom of teaching. A rigid system of examination has been introduced, and teaching has been unduly subordinated to examination. This evil has been fostered to some extent by the system of recruiting for the public services from men with academic qualifications only, even though the work to be done does not require a high standard of learning. (*Vide* my answer to question 15.)

(*c*) The students have to spend much time over a foreign language in which school text-books in all subjects are written ; and, hence, there is danger of their being deficient in general knowledge. Alternative courses of study are prescribed, however, from the beginning of the college career. This system of early specialisation, without a thorough preliminary general training, is not conducive to true culture. The bad effect of this vicious arrangement is specially felt in the scientific departments of the colleges, where the students are greatly handicapped by the exclusion from their school course of any teaching in elementary science.

BHANDARKAR, D. R.

So far as the subjects to which chairs have been attached are concerned the existing system of university education undoubtedly affords to young Indians of ability full opportunity of obtaining the highest training.

BHANDARKAR, Sir R. G.

The existing system is deficient, as the ideas implied in question 2 are not realised to a satisfactory extent.

BHATTACHARJEE, MOHINI MOHAN.

The present system of university education does not give young Indians the best opportunity of obtaining the highest training. It is deficient in many respects. Firstly, it has not created an atmosphere of devoted study, of calm contemplation such as universities of other countries have done. Its jurisdiction is vast, the number of its *alumni* is also large, yet it has failed to establish its claim to the veneration of the people as a temple of learning or the home of scholarship. As Cardinal Newman says, the function of a university is to create an atmosphere, and this atmosphere can only be created by master-minds and men of genius whose influence and productions have an abiding value. The Calcutta University has never attempted to secure the services or enlist the active co-operation, of men of talent from Europe (excepting Sir Henry Maine), or of men whose labours in the various branches of knowledge have established the claim of the Bengalis as an intelligent people, have enriched Bengali literature, given a new life to the nation, fostered its various social and political activities, and shaped its aspirations and dreams of the future. Their names are not associated with the University as Newton's name is associated with Cambridge or as Arnold's name is associated with Oxford.

The present system of university education is not at all in touch with the life and the ideals of the people or the students. Students attend the University to obtain their degree, but for inspiration, for enlightenment, for sweetness and light, they look elsewhere.

BHATTACHARJEE, MOHINI MOHAN—*contd.*

If the leaders of thought in Bengal could be prevailed upon to lend their support to the University, and accept professorships there, if famous men from foreign countries would come and deliver lectures at the University, an atmosphere and a tradition would be gradually created.

There are also objections regarding the courses of study, the medium of instruction, and the time spent at the University. At present, a full university course leading up to the M. A. degree takes six years, so that a student of the Calcutta University has to spend six long years in attaining a general level of culture and obtaining an advanced knowledge of one particular subject. After this long period he is supposed to be fit to undertake research work.

This, in my opinion, is an unnecessary waste of time. At Oxford or Cambridge the usual period of residence at the university is from three to four years, even for honours students. At Harvard a diligent student can get the Ph.D. in five years and his M.A. in four years. If research and independent study are to be the aim of the University the sooner the necessary training is finished the better. Not only is the period of tuition unusually long, but the students have to pass a number of examinations to obtain an M.A. degree. Examinations are fearful ordeals, especially in this country, and students are put to considerable strain in having to prepare for these four examinations. Class exercises are good in that they compel students to be regular and diligent in their studies, but these university examinations have not the same effect. On the contrary, this multiplicity of examinations only serves to be unwelcome breaches of the continuity of the University course.

Students forget that they should leave the University with an advanced knowledge of a particular subject and some amount of culture. They have to meet the bugbear of examination every two years and, true to human nature, they try to guard against the immediate danger and, whether they are in the first year, the third year, or the fifth year, it is the examination that looms large before them. This is why we find students choosing those subjects which, though unconnected with their main subject (in which they would specialise in future) are likely to give them an easy pass. There are students who have passed their I. A. examination, with English, logic, Sanskrit, and mathematics, their B.A., with English, Sanskrit, and mathematics, with honours in the last subject, and the M.A. in mixed mathematics. Surely, physics and chemistry would have formed a better combination with mathematics.

The new regulations of the Calcutta University have given a wide choice to students in the selection of their subjects. The principle is good, but the extent to which it has been carried has not been productive of unmixed good. As I have just noticed, students take advantage of the regulations to select subjects that are not in any way connected in the hope of passing examinations easily. But, surely, some subjects are more connected and correlated with one another than others and, in the interest of scholarship and true education, there ought to be some restraint on the liberty of choice. Advanced study of every subject requires a knowledge of correlated subjects. Advanced study of every literature requires a rudimentary knowledge of some at least of the languages and literatures which have influenced it. An appreciative study of Chaucer depends on a tolerably good knowledge of French, if not also of Italian. Elizabethan tragedy in its early stage can be traced to Seneca, and Elizabethan comedy to Plautus and Terence, if not to Aristophanes. The heroic play owes much to French drama, and French romances have been drawn upon in a good many English works. Some knowledge, therefore, of French and Latin, if not of Greek also, is indispensable to an advanced student of English literature. The importance of studying correlated subjects has been recognised by many up-to-date universities ; at the same time, the claims of culture have not been neglected. While students are required to acquire knowledge which forms the mental outfit of an educated man of the twentieth century they are encouraged to make a comprehensive study of certain interdependent subjects out of which they are at liberty to specialise in one later on.

At Harvard candidates for the B. A. degree are required to take courses in four departments of study, *viz.*, :—

(i) Literature, language, fine arts, and music.

BHATTACHARJEE, MOHINI MOHAN—*contd.*

(ii) Natural sciences.
(iii) History and political sciences.
(iv) Philosophy and mathematics.

At Cambridge part I of the previous examination consists of Greek and Latin, while part II consists of physics (heat), chemistry, mathematics, and logic. It will be seen that both Cambridge and Harvard seek, in different proportions, to give an all-round education. The graduate course of Harvard includes science, philosophy, literature, and history, and the Cambridge course is also of the same type. The importance of the study of correlated subjects and of foreign languages has been similarly recognised in all important centres of learning. At Tokio the syllabus on English literature includes, besides the history of the Japanese language and Chinese literature, the history of the literature of modern Europe, pedagogics, history of fine arts, and æsthetics. The Occidental history syllabus includes philosophy, psychology, pedagogics and the science of religion. The syllabus on French literature embraces Latin, and that on Sanskrit literature includes Latin and Greek. The system of concentration and distribution at Harvard is also based on the principle of correlated studies. This system requires a student to concentrate his work in one group and distribute some courses in other groups. Correlated subjects are studied with advantage when concentration is made in a particular group. There is a wide field for choice, but no choice is permitted without the sanction of the committee on the choice of electives.

As regards the study of foreign languages for facilitating advanced study and research we find that French and German are made compulsory in the freshman year at Harvard. At Cambridge also, besides Latin and Greek, included in part I of the previous examination, French or German is compulsory for honours students as an additional subject.

In the light of lessons taught by these universities I propose that our University courses should be reconstituted with a view to ensure (1) a good, all-round education, (2) concentration, *i.e.*, the study of cognate subjects, (3) study of foreign languages and of the classics, too, wherever possible, for helping advanced study and research. To encompass this end we should add science to the matriculation course. Chemistry, botany, and elementary physics should be made compulsory for matriculation students.

I am not forgetting that it is difficult for many high schools to arrange for the study of these subjects and to construct laboratories. But all reform is difficult at the beginning, and this difficulty should not scare us away. Expenditure on education is lamentably insufficient and more ought to be spent on it. No laboratories on any large scale are necessary for the teaching of elementary science. The public is anxious for a better education than what is now provided, and there would be no lack of private generosity to supply the initial outlay on laboratories.

The graduate course should be a three years' course. There should be courses in all the subjects now recognised by the University, but courses in correlated subjects alone should be allowed to be taken up by students. The choice of the correlated subjects by the students should be subject to the sanction of the professor-in-charge. Students may take up honours by concentrating on one of the subjects, and provision for teaching honours ought to be made by the University. Honours students should take, at the end of their first year, an examination in a foreign language, say, French, and another examination in, say, German, or in a classical language at the end of the second year.

During the post-graduate course students should further specialise in their honours subjects. Advanced study would be much facilitated by their knowledge of French, German and the classics, and students would be quite able to use French and German journals. The M. A. examination would be written, but students ought to be permitted to submit a thesis in lieu of a part of the examination. Those who prefer to submit a thesis should receive the advice of their professors, and the subject of the thesis ought to be so selected that a continuation of its study may enable students to produce a thesis for the Ph.D. degree a year or so after they have gained their M.A. Post-graduate teaching should be under the control of the University as it is at present.

BHATTACHARYA, JOGENDRANATH—BHATTACHARYA, NIBARANCHANDRA.

BHATTACHARYA, JOGENDRANATH.

The present system of university education in Bengal affords to young men of ability a *fair* opportunity of securing the highest training. This is due to the following reasons :—

(*a*) Too much thought and anxiety on the part of the student to pass the university examinations.

(*b*) Want of freedom of teaching, which is being defined by prescribed examination requirements.

(*c*) Want of free intercourse between the professor and his pupils outside the lecture-room.

(*d*) There is no proper arrangement in the University for teaching such subjects as mining, engineering, agriculture, weaving, etc.

(*e*) Want of requisite practical training after the student has gone through his final course in the post-graduate stage.

The earlier Acts specified that the chief object of the University is " to ascertain, by means of examination, the persons who have acquired proficiency in different branches of literature, science, and art, and of rewarding them by academical degrees as evidence of their respective attainments and marks of honour proportioned thereunto ". The Calcutta University of the present day, thanks to Sir Asutosh Mukherjee, the late vice-chancellor, has emerged from this ideal with a new end and aim. It is no longer an examining body only, but has its teaching activities developed to a considerable extent. Professors, readers, and lecturers have been appointed for post-graduate work and for delivering highly specialised lectures. But these are mainly for arts subjects. The University is sadly deficient in imparting instruction in applied science and technology. It trains students only for a few professions, and has practically done nothing as yet to promote the study of agriculture, forestry, mining, engineering, and other technical industries. Students who have special aptitude in these subjects find no opening; consequently, they have to fall back upon the prescribed avenues that are opened, *viz.*, law and medicine. Further, there is no commercial college of an advanced type under the University. There is an institution under the name of the Government Commercial Institute, but its examinations are not conducted by the University, and there are no degrees or diplomas for them. Quite recently a start has been made in the right direction. The munificent gift of Sir T. Palit has enabled the University authorities to establish a science college for research work. The Calcutta University is simply passing through stages taken by other universities in the course of development. It is ardently hoped that, in its final stage, it will come out as a highly useful body, with requisite arrangements for the study of the different branches of learning.

After a student has passed his final examination in any subject in the post-graduate stage it is highly necessary that he should have practical training in that subject. He will be required to write a thesis, or hold higher practical demonstrations, with a view to inquiry. In these he will be guided by his professor, who will then have great freedom of teaching. The pupil, having got rid of the bugbear of examination, will independently pursue his investigations, and this will surely give him the highest training possible. This is done in the medical and engineering colleges where a student, after securing his degree, has to go through the practical course for one year more. If this is possible in those colleges there is no reason why a student should not have his practical training in the arts and science courses for the same period. This will put an end to the generally inferior output of the present day, and remove the stigma that the modern M.A.'s are not so intelligent and useful as those of past years.

BHATTACHARYA, NIBARANCHANDRA.

In my opinion, the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. And this is due to the following causes :—

(I) Want of co-ordination between the different education departments.

BHATTACHARYA, NIBARANCHANDRA—*contd.*

(2). Difficulty of teaching and learning through the medium of a foreign language.

(3) Lack of sufficient number of good teachers. As regards the last point I think that this defect is rapidly being remedied by the spread of education. Until this is more general no sudden improvement in this direction is possible. Unless the conditions of teaching in primary and secondary schools are improved we cannot get in the University a class of students whose various intellectual faculties are properly developed for higher work. University teachers may be improved by higher pay which will induce men of higher merit than now to adopt the teaching profession. Distinguished foreign teachers should also be induced to come here.

The first two points I will discuss a little more in detail, and suggest remedies for the defects.

1. The first need of the Calcutta University is co-ordination. There should be one co-ordinating brain for the whole system of education. University education is built on the foundation of primary and secondary education. Unless the foundation is sound the building cannot be strong. No distinction should be kept between the different departments of primary, secondary, and university education ; the whole should be under one supreme authority, who will co-ordinate the needs of different kinds of education with each other and with national needs.

For want of this co-ordination it is possible for a student to pass his matriculation examination without training his powers of observation or manual dexterity. Students have absolutely no training in drawing or any mechanical work.

The medium of education is a point of vital importance. The highest perfection of university education can never be attained in this country until higher education can be imparted through the medium of the vernaculars. The English language is as far removed in its affinity from the Indian languages as it can possibly be. It is not the same thing for Indian students to learn English as for English students to learn French, German, or Latin. The other day I was listening to a Bengali address delivered by one of our most distinguished professors. His East Bengal accent and idioms were a torture to the ears of West Bengal men. If one of our foremost men has so much difficulty after thirty years' residence in Calcutta in acquiring a correct style of Bengali pronunciation and idiom we can well understand the difficulties of average students in acquiring a decent knowledge of the English language. A very important part of the energy of our students is spent in acquiring a workable knowledge of English. The language mechanism of their brain is developed at the expense of other important cerebral functions—very little energy being left for developing their powers of observation, independent thinking, etc. When the same student becomes a professor the same language difficulty is felt in another form. He has been taught during his university career to understand English text-books and to write his answers in English, but not to lecture in English. His entire energy during the first few years is spent in learning to lecture to his class in English. I know that many of our junior university professors who have done a good deal of original research work will be terrorised if they were asked to meet a moderate sized class of junior students.

I am opposed to giving too much attention to the vernacular. At present there is no profession where a knowledge of the vernacular is absolutely necessary. The zemindars and Indian commercial men who conduct their business in the vernaculars do not care for mere style of writing. Under these circumstances to oblige every student to study too much of the vernacular would really be a costly affair. The student will either learn his Bengali language at the expense of other useful subjects or at the expense of his health. I propose that the teaching of Bengali as a literary subject for all students should be stopped in the third class. In the matriculation and intermediate stages there should be an alternative paper on Bengali literature. But, during this stage, in order that the boys may acquire a habit of expressing their ideas in their mother language I propose that the teaching of history should be entirely in the vernacular. Students will not only read historical text-books in Bengali, but will also write their answers in Bengali. This will be

BHATTACHARYA, NIBARANCHANDRA—*contd.*

a most economical method, the students learning their history and acquiring a working knowledge of the vernacular at the same time. I am opposed to teaching geometry, arithmetic, or geography in the vernacular. These will put more strain on the boys; they will be obliged to master a new set of technical words in Bengali. In the case of history there is no such difficulty about technical terms. There are many good books on history in Bengali. And any good European history can be translated into Bengali without difficulty.

Text-books on English should contain a good deal of useful knowledge and also a good deal of interesting matter. I am of opinion that text-books used in English schools and colleges should be introduced into the schools and colleges of this country. All text-books specially prepared for India should be abolished.

I propose that the English course should be split up into two parts from the matriculation up to the B.A. stage. Part first—the compulsory course—will consist of modern English only; even books which are thirty years old should be removed from this part. All books which contain too many allusions to the Bible or Greek or Roman mythology should also be removed. I have seen the painful process by which many students master their Milton. If the same energy and time were devoted to the study of modern English from newspapers, magazines, or modern novels it would have enabled the readers to read, write, and understand spoken English far better. In this course I propose that some dramas or plays (*e.g.*, Bernard Shaw's) should be introduced so that the students may acquire a knowledge of English conversation.

The second course of English, which should be alternate with some other subject, should contain Milton, Macaulay, Carlyle, and other classical writers.

I am opposed to making Sanskrit a compulsory subject in the matriculation stage. But as I have noticed that the majority of Indian educationists are in favour of Sanskrit as a compulsory subject I propose the following scheme for its study. Sanskrit should be split up, as in the case of English and the vernacular, into a useful course and an ornamental course. The only sound argument that can be given in support of Sanskrit is that it is the language of the spiritual culture of the Hindus. And as Hindu students receive very little or no religious education they should be taught Sanskrit. Such being the case I propose that the matriculation-compulsory-Sanskrit-course should at once contain literature for spiritual culture. I have noticed that amongst many young men there is a craving for spiritual culture. I think that this craving should be satisfied by judicious training. I have seen young men labour with Gita, or Upanishad, or other spiritual text-books. I propose that in the matriculation stage six chapters of Gita, the story of Prohlad from Bishnupuran, and some simple stories from the Upanishads should be incorporated in a text-book. This I consider to be the most economical method of teaching Sanskrit. Other classical Sanskrit literature should be set apart for the alternative part of the Sanskrit course.

Arithmetic should be reformed. There are big books on arithmetic consisting of a large amount of printed matter. At present a good deal of information contained in these is imaginary. Why not make these real instead of unreal?

Let two research students be employed under some distinguished mathematician. Let them prepare the reformed arithmetic. If the book be published by the University the profit will far exceed the cost of production. As a matter of fact, it will form a very useful source of income for the University.

I propose, therefore, that the work of preparing a practical arithmetic be given to two research scholars, one a mathematics student and the other an economics student, both working under a competent professor. They will collect their data from actual life and the data of every sum must be real, not fictitious. Statistics from Government departments, railway, various trades, etc., should be accurately compiled and sums should be prepared from these.

BHATTACHARYA, NIBARANCHANDRA—*contd.*

Drawing should be a compulsory subject in the matriculation examination. That it is a very useful subject, almost as useful as arithmetic and probably more useful than history, will hardly be denied. It is invaluable for medical, engineering, and science students. Even law students would be considerably benefited by a knowledge of drawing and surveying; these will help them in settling land disputes and in having a clear grasp of plans submitted for their perusal. Every man with any landed property should have some knowledge of drawing. Arts students will also be profited by a course of training in drawing. No high art is possible without some knowledge of symmetry. Drawing is specially useful for soldiers. And as a result of this war all countries in future will give some sort of military training to their young men. A course of drawing must form part of the education of every young man in every country. It is admitted by most people at present that all young men should have some sort of scientific training. The value of scientific education is threefold. Life in modern society is intolerable without some knowledge of elementary science. Scientific education developes our power of observation—a faculty which is very ill cultivated amongst our Bengali students. It further developes our manual skill—a thing which is also seldom cultivated by Bengali boys. A training in drawing will not only develope the power of observation, but also the manual skill of students. As our country is very poor it will be difficult to make arrangements for students handling costly machines and tools. Drawing in such a case will form a cheap and good substitute.

But the current method of teaching drawing is expensive in energy and time. Instead of making students draw various designs of plates and other antiquated and useless things students should be made to draw things of living interest. Under competent control drawing books should be prepared in such a way as to contain illustrations of modern machines, the structure of the human body, physical and chemical apparatus, and important biological specimens. This course of drawing will, in reality, be a help to the study of science.

I further propose that a course of elementary surveying, plan-making, and map-making should be added under this section. To make arrangements for giving our students practical scientific training would be very costly. So long as our schools are unable to take up this work elementary surveying should form part of such a scheme.

If we acknowledge that all education that is given to our boys should be conducted with some utilitarian object drawing and surveying should form a part of the education of the future citizen. The future citizen of Bengal will have to grapple with the sanitary problem of the country. And the solution of this problem will depend on the proper kind of town and village-planning, and road, canal, and tank-making. A knowledge of drawing and surveying will be useful in all these cases.

I have consulted a number of science teachers who have confirmed my opinion that Indian students (with exceptions) are messy workers; with their sense of symmetry properly developed by a course of training in drawing they will gradually become clean workers. A patch of water or dirt or disorderly arrangement of things that do not jar with his present ideas will do so after his sense of symmetry is properly developed.

Science should form a compulsory course in the matriculation stage. There is no divided opinion about the value of science in modern life. The only difference of opinion is whether it will be possible (economically) for our schools to introduce science at the matriculation stage. If it is impossible for our schools to undertake the systematic teaching of any particular science we ought not to abolish science altogether, but to do the next best thing—we should introduce nature-study. The chief aim in the matriculation stage should be not to cram the memories of pupils with facts, but to train their powers of observation and to develop their manual dexterity. And this can certainly be done by a course of nature-study. This will not be a costly affair; text-books should be made, embodying dissections about animal and plant life, study of minerals, and simple physical and chemical experiments. A good deal of botany and zoology can be taught without any apparatus at all. And the cost of making simple experiments in physics and chemistry is not always very great.

It should be further remembered that educational loss suffered by the student by the omission of science or nature-study in the matriculation stage cannot be compensated by making science compulsory in the I. Sc. stage. For, habits of observation, neatness, and manual dexterity, like all other habits, are best developed in early life.

BHATTACHARYYA, BAIKUNTHA NATH.

No.

(*a*) The system has failed to secure depth.
(*b*) It does not foster originality.
(*c*) It neither stimulates curiosity, nor engenders a love of knowledge.

All these are due to :—

(i) Paucity of competent teachers.
(ii) Want of freedom in teaching and study.
(iii) Unwieldy classes under a single teacher.

BHATTACHARYYA, HARIDAS.

The present system of university training is objectionable on the following grounds :—

(*a* Students do not get an all-round general training.
(*b*) Physical and æsthetic education are neglected.
(*c*) There is an overcrowding of some professions.
(*d*) There is no facility at present to study those branches of learning that can advance the material prosperity of India.
(*e*) Men and women are taught indiscriminately the same subjects.
(*f*) The number of unemployed or ill-employed educated men is daily increasing, and the openings are either few or such that their education does not enable them to avail themselves of them.

BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA.

I am humbly of opinion that we are not getting the highest training to the expected extent in both arts and science groups. There ought to be provision for compulsory research work in both arts and science groups in the M.A. examination ; in the B.A. honours, too, the standard should be much higher than it is at present.

BHOWAL, GOVINDA CHANDRA.

No; their training cannot go beyond a certain limit as there is not sufficient provision and arrangement for post-graduate studies and researches. Professorships, like the Tagore law professorships, should be founded for researches in other branches of learning. There is no provision for higher studies in astronomy and applied science, nor is there any arrangement for the study of commerce, agriculture, technology, industry, geology, mining, engineering, etc.

BISS, E. E.—BISVAS, Rai DINANATH, Bahadur—BISWAS, CHARU CHANDRA.

BISS, E. E.

Young Indians do not appear to me to have full opportunity of obtaining the highest training in connection with the University of Calcutta. The main reason for this view is that the circumstances of modern life in Bengal demand for the success of all young men of the middle classes that they should take degrees, with the result that the colleges are used by such large numbers that proper attention cannot be paid to the idiosyncrasies of individuals, nor can they be trained by intimate contact with the best minds either among their teachers or in their libraries.

The large number of candidates for the various examinations necessitates a large number of examiners. These have to meet and decide upon a common system of marking the papers. This almost inevitably leads to the marking of 'points', rather than to the estimation of the value of a candidate's work as a whole. This system again reacts upon the method of learning and of teaching in a harmful manner.

The enormous number of students that has to be taught makes the lecture almost the only possible method of teaching and the degeneration of the lecture as a method of teaching into the mere dictation of notes is ensured by the method of examination mentioned above. The most successful teacher comes to mean the most successful digester of the books which have been set for the examination, or the cleverest analyser of all possible questions that can be asked. Those among these notes which are of any value would be more useful if printed and distributed.

The main evidence that has come to my notice on this subject has been gathered from a study of the results while teaching for several years quite small classes of men who have passed the intermediate or the B. A. examinations, and from conversations with examiners. Even graduates are found to possess an amazingly restricted outlook upon the world, and are at first incapable of making their own notes from lectures, or of looking up a subject for themselves in a library. There are, of course, some exceptions, but I am stating the case generally.

BISVAS, Rai DINANATH, Bahadur.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training for the following reasons:—

Under the present system students care more for their examinations than for obtaining the highest training. Of course, there are provisions for post-graduate researches but few students take to such researches—the object of the majority of students being to pass examinations and make themselves eligible for some professions or services. No doubt, this is chiefly due to the poverty of the country, but if the whole system is changed, and the object of the University be teaching, and not merely examining, then this defect may be remedied.

BISWAS, CHARU CHANDRA.

I do not consider that the existing system of university education affords, even to young Indians of ability, full opportunity of obtaining the highest training. There are, no doubt, opportunities for obtaining instruction of a high standard in certain specified departments of knowledge, but that is not the highest training which university life, as now understood, ought, and may be made, to yield. The aim of true university education ought to be a thorough, sound training of the mind, body, and character, and I do not think this ideal is realised under existing conditions. Nor is the training now imparted in full harmony with national needs and requirements.

It must be recognised, however, that the present system has not had a full and fair trial so far. With larger financial support, either from the State or from private funds, I certainly think that the existing organisation may be made to yield better results.

Some of the main deficiencies of the present system may be put down as follows :—

(*a*) Exclusive attention paid to the theoretical side of education, that is to say, to pure arts and pure science, as distinguished from applied science, technology, commerce, industries, and agriculture.

(*b*) Little or no attention paid to physical training.

(*c*) Little or no attempt to offer moral and religious training, even to such an extent as is compatible with the principle of religious neutrality, which has to be observed.

(*d*) Inadequate opportunities for the fostering of what may be described as the true " university atmosphere."

(*e*) Insufficiency of good teachers.

(*f*) Undue importance attached to examination, teaching being subordinated thereto.

(*g*) Restricted opportunities for independent investigation and original research both by students and professors.

BISWAS, SARATLAL.

In the existing system of university education it is found that students desiring to study a particular subject for the bachelor degree have not even the most elementary knowledge of the principles of another subject which is essential to the study of the former. For example, it very often happens that a student taking up mineralogy for the B.Sc. course knows nothing of physics ; the want of a knowledge of geography is also strongly felt amongst almost all students. In these cases, with such defective bases, a student cannot be considered fit for receiving the highest training.

To remove this difficulty the following suggestions are given :—

(*a*) In the school department, up to the matriculation standard, students must acquire an elementary knowledge in all subjects which may afterwards prove useful, such as :—

(i) English.
(ii) Vernacular.
(iii) Sanskrit or some language other than (i) and (ii).
(iv) Mathematics (arithmetic, algebra, and geometry).
(v) General geography of the World, with a fuller description of India ; also physical geography.
(vi) Indian history.
(vii) Elementary science—very elementary personal hygiene, physics, chemistry, botany, physiology (somewhat like Bignana Patha, which in the lower classes is studied more as literature than as science).
(viii) Drawing. This may be made optional.

(*b*) After passing the matriculation examination a student must select the subjects for the bachelor degree examination. The course of study would extend from the passing of the matriculation examination over a period of :—

(i) four years for the B.A. and B.Sc. ; and
(ii) six years for the B.L., M.B., B.E., bachelor degrees in commerce, agriculture, and other subjects in applied science and technology.

There would be an intermediate examination for each course at the end of the second year for the former (1) courses and of the third year for the latter (2) courses. The course of study for the intermediate should be adapted to the study for the degree examination, *i.e.*, in the intermediate course a student shall study portions of the subjects selected for the degree examination and such portions of other subjects as are necessary for the study of the selected subjects.

For example, in the B. L. course, students should first study :—

English up to the B.A. standard.
Logic, and elementary principles of science.
Science, and history of law, etc.

In B.C. (Commerce)—

English up to about the B.A. standard.
Vernacular.
Commercial geography.
Junior book-keeping.
Commercial arithmetic, etc.

One should not be allowed to study simultaneously for two degree examinations, otherwise, the study of one course would, in general, be neglected and the basis for higher training in it would not be sound.

A matriculated student, who has special aptitude in a particular subject in which he is capable of conducting original investigation, should get some recognition of his research work. The bachelor degree may be conferred on him if his thesis is of the required standard. Similarly, one who holds the bachelor degree may obtain the master degree by thesis only. Such recognition would not only induce research work, but also afford to students another way of obtaining the highest training.

The restriction disqualifying third-class M.A.'s or M.Sc.'s from obtaining the doctor's degree should be removed.

In all such cases, however, a *viva voce* examination on the subject of research work is desirable.

University teachers should be sent periodically to foreign centres of learning. The experience thus gained by them would be invaluable not only in their own original investigations, but also to students desirous of obtaining the highest training.

BOMPAS, The Hon'ble Mr. C. H.

It is necessary to form a perfectly clear idea of the position of universities in the scheme of national education and culture. In my opinion, a university, in the first place, affords a centre where the ablest scholars in a country can carry on study and research with the benefit of mutual assistance and encouragement, and combine to procure the instruments of scholarship, such as libraries and laboratories. In the second place, it is a teaching institution and the first point for determination is for what class its special teaching is intended. I take it that university education is intended, firstly, for the training of men who are to follow the learned professions; secondly, for students who have displayed marked intellectual ability and will be justified in devoting themselves to pure scholarship or research; thirdly, to give a broader culture to those who, in their position in life, need not work for their living and who may have but ordinary ability, but who will naturally be called on, owing to their rank and wealth, to occupy an important position in the community. It is obvious that the majority of the students of the present Calcutta University do not come under any of the three classes. The bulk of them have no aim higher than a clerkship and the position is much the same as if the University of London made itself responsible for the training of all the typists employed in the merchant offices in London. Secondary schools should give all the education required for ordinary clerical employment. If this is not recognised the already unwieldy Calcutta University will, in a very few years, become altogether unmanageable. The apparent remedies are to raise the age of admission and largely increase the expenses of the university course, combining this, however, with a large number of valuable scholarships for the encouragement of students of exceptional ability.

BOROOAH, JNANADABHIRAM—BOSE, B. C.—BOSE, Rai CHUNILAL, Bahadur—BOSE, G. C.

BOROOAH, JNANADABHIRAM.

The answer to this cannot be given in a few words. An average student gets all that he wants in the present system of education which is given under the auspices of the University—but the highest training which we should have in view is to bring together all our faculties in perfect harmony with each other. The physical aspect of our education is completely left out—what we should strive after is to have a sound mind in a sound body. The training which is given now is directed towards intellectual development only—that, in my opinion, should not be the case. Our students should be physically strong so that they may also be intellectually strong.

India is an agricultural country. There should be some scope for agricultural training under the University.

Technical training also should not be left out—all students need not be graduates in arts or in theoretical science.

The present system is not unsatisfactory for the majority of students—but those students who are specially qualified should be encouraged to visit Western universities.

BOSE, B. C.

It would be unfair to say that the present system makes it impossible for a student to obtain the highest training in any subject. We have had under this system men who could hold their own against the best of those trained elsewhere. But nothing human can be perfect; and surely there are some features of it which have a tendency to divert young minds from the proper ideals in study to the attainment of present distinction. This evil seems capable of being greatly remedied by a change in the methods of examinations contemplated in question 9.

BOSE, Rai CHUNILAL, Bahadur.

No.

The defect lies partly in the system, and partly in the working of the system. Other sides of education besides the intellectual, for example, the physical, the moral, and the æsthetic, are not fully encouraged by the existing system. Neglect of any of these aspects of education would leave it incomplete.

Although much improvement has in recent years taken place in the courses of study in the Calcutta University adequate provision is still wanting for research work, both in arts and science subjects.

The groundwork of the study of science is defective. It should begin at an earlier stage than at present, and greater stress should be laid on practical work.

Greater attention should also be paid to the practical side of education than to mere acquisition of book knowledge so that students leaving the University may be found generally fit for the different avocations of life.

BOSE, G. C.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training, as :—

(*a*) it attaches more importance to examination than to teaching; in fact, examination dominates the whole system of education from the primary stage upwards;

(*b*) it lays undue stress upon the form and external shell cramping the matter and internal core;

(*c*) it does not help to draw out and develop the power of independent thinking, self-exertion, and taking the initiative;

(*d*) it is too rigid and inelastic to adapt itself to the growing needs of the country;

(*e*) under it education has degenerated into mere instruction, and that not of the best type;

(*f*) it serves mainly as a passport for the professions and public services.

BOSE, HARAKANTA.

No; because :—

(*a*) There is a lack of efficient teachers in our educational institutions; the conditions of the service not being sufficiently attractive, men of first rate ability do not care to join the profession of teachers.

(*b*) The unnatural process of acquiring knowledge through a difficult foreign language hampers many an otherwise intelligent young man whose linguistic faculty is, unfortunately, weak.

(*c*) The course of study prescribed for the matriculation student is not comprehensive enough for his proper development so that he enters the University inadequately equipped intellectually.

BOSE, Sir J. C.

The existing system does not give young Indians full opportunity of obtaining the highest training. The defects may be remedied by placing students under personal guidance and training of teachers of high personal character and recognised international standing. The teacher can exert no influence on his pupils unless by his own example he is able to inspire in them a devotion for high ideals and love for knowledge.

Under the present system no encouragement for investigation on new advances of knowledge is possible because :—

(*a*) Such branches of knowledge are not now represented in the curricula.

(*b*) There is no examining body competent to appraise the value of research.

These defects may be remedied by recognising publication by the highest scientific societies, such as the Royal Society, entitling students for a degree of the University, or by recognising the recommendations of a teacher of acknowledged authority on the work carried out by his pupils. The publication of the results, together with the name of the teacher on whose recommendation the degree is conferred, will serve as a check on possible abuse.

BOSE, J. M.

The existing system is deficient in the following respects :—

(*a*) The present regulations do not encourage or allow a student of ability to acquire a wider knowledge of his subject than that laid down in the syllabus.

(*b*) The libraries and laboratories of most of the "private" colleges are very poorly equipped.

(*c*) Even the students of better equipped colleges cannot take full advantage of the libraries and laboratories as they live too far from their colleges. During college hours their time is entirely taken up in attending lectures.

(*d*) Sufficient attention has not yet been given to develope the academic life of students. Although college unions and debating societies exist they are not sufficiently well developed.

BOSE, KHUDI RAM—BOSE, Miss MRINALINI—BOTTOMLEY, J. M.—BROWN, Rev. A. E.

BOSE, KHUDI RAM.

The system of university education as now administered in these provinces, does not seem to afford to young Indians of ability full opportunity for the highest training, viewed in its intellectual and moral aspects. The existing system calls for a substantial improvement, principally from each of these standpoints.

BOSE, Miss MRINALINI.

No.; according to the existing system of university education Indian students have more instruction than education in the true sense of the word.

BOTTOMLEY, J. M.

I do not consider that the present system of university education in Bengal offers to Indians of ability proper opportunities of obtaining the highest training.

In my opinion, the most urgent need is a more rational system of intercourse between students and lecturers, together with the abolition of the existing tyranny—affecting alike teacher and taught—of interminable lectures. Every student should be assigned, upon his admission to a college, to a tutor who must be prepared to give individual attention to each of such students.

This will mean:—

(i) A considerable reduction either in the numbers of students or, proportionally, a considerable increase in the staff of each college.

(ii) A decrease in the number of "lectures" delivered. It would seem proper that the college, and not the University, should determine the number of lectures to be attended by its students.

Changes of this nature would make the education of students a slower process and, ordinarily, a student should take five years to obtain his degree from the time of the matriculation—two years to the intermediate and three more to the degree examinations.

BROWN, Rev. A. E.

The present system is defective in two main respects:—

There is only one type of education for every class of student. The best students are kept back at almost every stage of their education by the less intelligent students in the same class. Even B.A. honours students go through the course as ordinary students, with a slight addition. We consider that there should be much more differentiation.

(b) Under the present system a boy from the fourth class, inclusive, is obliged to answer questions in examinations in English. As he is quite unable to express his own ideas in that language at so early a stage he is compelled to memorise his answers, and the habit thus formed cannot be broken even at a later stage when he might, possibly, be capable of giving his own ideas in English.

Apart from this, the necessity for expressing his ideas through the medium of a foreign language very seriously hampers and hinders his progress.

CAMERON, M. B.

If I am inclined to answer this question in the affirmative I trust that I shall not be misunderstood. There are three misconceptions in particular against which I wish to be guarded :—

(*a*) That I think the ' highest training ' in India can be equated with the highest training in Britain, in Europe, or in America.

(*b*) That I think our existing system of university education compares favourably or, indeed, on even terms with systems of university education elsewhere.

(*c*) That our existing system is entirely satisfactory to those who are working it.

Much might be said on these points but I shall merely indicate, as briefly as possible, my views on each of them.

(*a*) The highest training is not merely a matter of men and apparatus. It exists only in organic relation to an intellectual and social atmosphere which cannot be imported wholesale, or even in sections, and which is no hasty creation, but the gradual product of years of growth. The sixty or seventy years during which universities have been at work in India constitute but a very short time in such a growth, and it must be remembered that they are the early, the opening, years when growth is to be measured only by the ' painful inch'. It is not till the later stages that the ' main ' comes sweeping in.

(*b*) I deprecate comparisons of university systems in the abstract, or measuring them against one another, without considering many things that lie beyond university systems. Any university system which is really alive and healthy is an integral part of a whole educational system and can only be properly estimated when its relation to the other parts is taken into account. No one can be more conscious than I am of the defects of our university system here, but systems in themselves better might serve us worse.

(*c*) While satisfied on the whole with the main lines on which our university system has been laid down I freely recognise that within these lines there is room for steady progress. It is very possible that use and want have blinded us to many defects, and I welcome the inspection by fresh eyes which the Commission brings with it. As far as my experience goes young Indians of ability find, under the existing system, as full an opportunity of obtaining the highest training as they are ready to use. At the upper end of our courses there are State scholarships encouraging a continuance of studies and training. They are not numerous, but in proportion to the number of candidates qualifying to compete for them they are numerous enough. At the graduate stage too many students leave us, and here there would seem to be the need to increase the number and value of scholarships to tempt students to go on. At the M. A. or M. Sc. stage there might be made available a number of teaching fellowships of a value of about three-fourths of that of the average full time appointment for which the student has qualified, and requiring a stated and strictly limited amount of teaching work in colleges, combined with the following out of approved lines of further study. These fellowships might be tried in addition to, or as substitutes for, the somewhat meagre scholarships for pure research at present existing which seem to end too much in the air and leave a man too long without some kind of hold upon a definite profession.

CHAKRAVARTI, BRAJALAL.

The present system of wosk is not adequate to the requirements of a sound education. Bifurcation of subjects has been introduced at rather early stages and in a manner which is inconsistent with the liberal education of the individual student. Progress has been considerably retarded by the fact that instruction has

to be imparted not through the vernacular of the province, but through English, which is a foreign language and takes a long time to master.

There are other defects which go to the root of the present system and are due to causes over which the University, as it is constituted, has no control. The economic condition of the country has made the struggle for existence very keen and has made it almost impossible for our young men to devote themselves to materialism, and no check for it can be found, except in the ideas of religion and asceticism. All our university work is bound to fail unless we can set up the ideal of religion which, however, has all this time been left severely alone. The economic struggle has been further intensified by the fact that students do no manual work, but are made to live an indolent life for years together and are brought up in a style often far above their own, so that on entering the world they find themselves cast adrift. Again, the increased cost of education has worked as a deterrent and has placed it beyond the reach of many.

CHAKRAVARTI, CHINTAHARAN.

The existing system of university education does not afford to young Indians full opportunity of obtaining the highest training. A system of education that does not make adequate provision for physical, moral, as well as intellectual, training cannot be regarded as complete. A man with his intellect even fully developed is but a "fraction of a man" unless his physical and moral side receive a due share of training and development. The present system of university education that aims at intellectual culture only is defective in the following points :—

(*a*) An appetite for learning is not created in students.

(*b*) Students receive very little guidance in the selection of books and choice of study so essential for the healthy growth of a love of learning. Besides the prescribed text-books they ought to read a good deal for which they should receive individual attention and advice from their teachers.

(*c*) Students do not receive sufficient opportunities of profiting by the personal influence, wisdom, and example of teachers.

(*d*) It is not thorough; all the mental faculties of students are not duly exercised and developed.

CHAKRAVARTI, CHINTA HARAN.

The existing system of university education in Bengal appears to be deficient in the following respects :—

(*a*) Too much stress has been laid on purely intellectual education. The curriculum is rigidly fixed and teaching is subordinated to examination. The receptive power of the student is more developed than his critical and constructive power.

(*b*) The present system is weak so far as the physical development of the student is concerned. His health and physical development suffer on account of excessive brain-work and overstraining of mental energy.

(c) The Student is not prepared for 'complete living'. There is a gap between school and life. The scholar is not sufficiently trained to perform social, civic, and religious duties. Most of his teachers with whom he comes in contact have no inspiring ideals of life.

(*d*) There is very little corporate life among the alumni of the University. It is too unwieldy to secure effective control over its affiliated colleges and schools which are scattered over the different parts of the province.

(*e*) Many students enter the University for higher education who are not fit for it.

CHAKRAVARTI, Rai MONMOHAN, Bahadur—CHANDA, The Hon'ble Mr. KAMINI KUMAR—CHATTERJEE, The Hon'ble Mr. A. C.—CHATTERJEE, Rai LALITMOHAN, Bahadur.

CHAKRAVARTI, Rai MONMOHAN, Bahadur.

The existing system is not perfect. It may be examined from various standpoints of view, such as :—

(i) theoretical teaching;
(ii) practical training;
(iii) as an examining body;
(iv) as a teaching institution; and so on.

In many respects the existing system stands in need of much improvement, as my answers to some of the other questions will show.

At the same time, it would be unfair to overlook the progress made since the passing of Act VIII of 1904. The changes made during the last ten years are wider and deeper and,—in several respects, more advanced, and more democratic, than in the previous fifty years of university life.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

Except that the present system is more literary than scientific, and that the teacher and the taught more often than not look upon success at examinations as the aim and goal, there is no reason why the existing system of university education should not afford to young Indians of ability full opportunity of obtaining the highest training. Examinations at present are, as it were, so many duels between the examiner and the examinee and in this duel the real aim of education, which is the formation of character—the development of the moral, mental, and physical qualities—is forgotten. This must be remedied by radically changing the character of examinations.

CHATTERJEE, The Hon'ble Mr. A. C.

(*a*) The existing system is dependent almost entirely on examinations. Not enough stress is laid on correct methods of teaching or of learning.
(*b*) The teachers themselves are, in most cases, insufficiently equipped, and have each to teach too many pupils and have, in many cases, to manage without well-appointed libraries, laboratories, etc.
(*c*) The students also suffer from the lack of libraries, etc., and depend too much on a few text-books, lectures and lecture notes.
(*d*) There is not enough *seminar* work. The student expects the teacher to do everything for him instead of the latter only telling him how to do it.
(*e*) There is not sufficient contact between the teachers and the taught outside the lecture-halls.
(*f*) There is a remarkable absence of "atmosphere" and, so far as I know, there has never been any definite aim to develope such atmosphere.

CHATTERJEE, Rai LALITMOHAN, Bahadur.

If by the highest training is meant a training that makes for a harmonious development of mind and body, that calls forth each student's individuality, that promotes independent, clear, and orderly thinking, it must be said that the present system of university education in India does not afford full opportunity for such training. The education imparted does not go deep enough for shaping mind and character. The student comes up from the school with a vicious habit ingrained in him—that of depending chiefly on his memory. In the college the training that he receives may be described in the words of Mark Pattison, quoted in the report of the Haldane Commission :—"The first principle

of intellectual training that all should be educed from the pupil's own mind is here inverted; all is poured into him by his teacher. The teacher does as much, and the pupil as little, as possible". The student depends even more largely on bazaar notes and keys, because he has never acquired the power of accurate expression, or of thinking for himself. The teaching that he receives is mainly, if not exclusively, directed to helping him to pass his examination. He brings with him so poor a basis of sound general education that higher teaching is more or less wasted on him. Then, again, there is very little in his studies in the college to awaken living interest or touch his deepest instincts—and so call forth mental effort. For example, political and social evolution in India is the most vital concern of young India. Modern university studies have little bearing on that. Nor must it be overlooked that there are few teachers, either European or Indian, who by their "first-rate ability and recognised standing in their subjects", by their character and personality, command the faith of our students, or serve as patterns for them.

CHATTERJEE, PRAMATHANATH.

I do not think that the present system of university education in Bengal affords to Indian students full opportunity of obtaining the highest training. The reasons are, in my opinion, as follows:—

In the first place, most of the colleges of Bengal are not adequately financed and the buildings, equipment, and staff provided for them are not quite up to the mark.

Secondly, much time is lost by our students in acquiring a practical knowledge of the English language, which is now the medium of instruction and examination in all colleges. Indian students have to labour under a greater disadvantage in this respect than those who are taught in their mother tongue.

Thirdly, under existing conditions, both professors and students in this country have to work under certain restrictions which are not conducive to the full development of the mental and moral powers of the students under instruction. Full and free discussions, frank interchange of views between the teachers and the taught, are not always possible in Indian colleges where, in the relations between the professors and their pupils, the *personal element* is not much in evidence.

Fourthly, the ideal which is usually held up before the students, and is encouraged in this country, is the passing of certain examinations which have a marketable value. Very few students are actuated by any higher motive than this. No system of education which is dominated so much by public examinations can ever hope to attain to a high level of efficiency. These examinations, again, cannot be entirely ignored as they are passports to Government appointments, as well as to professional careers.

CHATTERJEE, RAMANANDA.

Generally speaking, the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training; though, in spite of it, some receive very good training because of their own capacity, and the ability of some Indian professors. The ease with which some of our students have obtained the D. Sc. degree of London proves this. Other proofs are furnished by the original work done in chemistry, physics, zoology, botany, geology, physiology, economics, philosophy, mathematics, epigraphy, numismatics, history, anthropology, etc., by Indian graduates who have never studied in any foreign university. They show, too, that some of our professors are capable of giving the best training if opportunity is given them. Taking into account our population, however, the number of our original workers, and the amount of original work done, must be considered very small.

CHATTERJEE, RAMANANDA—*contd.*

I consider the existing *system* deficient from this point of view in many respects. Their nature will appear from the following paragraphs.

(*a*) *Want of due previous preparation.* Take the case of science. In schools recognised by the Calcutta University, science, generally speaking, is not taught, as was admitted in the last directors' conference held at Simla. For successful scientific training and work in youth and mature manhood the scientific habit of mind has to be developed and strengthened in childhood, and the senses trained for the purpose of accurate observation. Manual dexterity and manipulative skill for the performance of experiments, and the devising of means, contrivances, and methods, have also to be developed and increased by manual training in childhood. In schools, therefore, the teaching of science, nature-study, and manual training is required. It is not the quantity of scientific information imparted which matters. What is all-important is the rousing, and keeping alive, of the thirst for investigation, the creation of the true scientific spirit.

As regards language and literature these are taught more from the grammarian's and lexicographer's point of view, than to enable children in after-life to use a language for literary and business purposes. From early life children should be induced and encouraged to describe what they perceive, do, and feel. They *can* be made to appreciate literature very early—though, of course, not analytically.

History and geography should be taught in connection with each other. They should both be compulsory subjects of study and examination in high schools preparing for the matriculation examination. Old history should be made living by using contemporary history to illustrate and elucidate it. Contemporary events in India and foreign lands should be made the means of teaching geography. An hour should be set apart for the children to show, and be shown, on the map the places where floods, conflagrations, battles, shipwrecks, treaties, etc., are reported in the papers to have taken place, and where noted triumphs of industrial, artistic, and mechanical skill have made the places famous. All places of educational and philanthropic enterprise should similarly be shown. The starting point in the teaching of geography should be the village or town where the school is situated. Any true historical incident, however trivial, or even some traditional or legendary story connected with the place, should be made the means of interlinking the teaching of history and geography. Pilgrimages should be undertaken to well-known historical places, and the historical incidents connected therewith narrated there. History should be acted in class by the children impersonating historical characters—taking care to choose such countries, periods, and occurrences as would not foment racial or sectarian hatred or jealousy.

As English is used in the delivery of lectures in colleges, and as many students cannot in college follow such lectures with ease, they should come with a better knowledge of English acquired at school. For this purpose the best teachers of English in each school should invariably be the teachers of this subject, at least in the lowest classes where it is taught. The methods of teaching English at present generally followed are faulty. Better methods should be introduced.

English being taught only as a language and literature all other subjects in the school courses should be taught through the medium of the vernacular of the children. This will give them a far better grasp of the subjects taught than the present method of using English as the medium of instruction. They will assimilate knowledge better, and will be better able to *think* for themselves. My experience is that, at the age of 10 or 11, in the highest class of the vernacular school where I first received education, my fellow-students and myself knew more of history, geography, mathematics, hygiene, sanitation, and natural science combined, than my class-fellows of 15, 16

CHATTERJEE, RAMANANDA—*contd.*

17, 18, or more knew when I was subsequently in the highest class of a high school preparing for the matriculation examination. The experience of many others has been similar.

(*b*) Teaching in colleges should not be entirely examination-ridden, as at present.

Professors should have the liberty to use the vernacular in teaching any subject whenever they find it practicable and more satisfactory than the use of a foreign medium.

(*c*) Colleges should have better libraries. Not only should there be more books, but of many books of reference and other works constantly required by students there should be more copies than one.

The cataloguing and arrangement of books should be better, and the reading and consultation-rooms more spacious.

The librarian should be an adequately paid, competent man possessed of the academic standing of a professor. He should be a man able to tell students where to find information on a particular subject and, generally, what books to read. For mere clerical work he should have an assistant or assistants.

(*d*) Laboratories should be better equipped and capable of accommodating more students.

(*e*) Students should have more tutorial *guidance* from *competent* person. In this connection, I think it necessary to say that I am opposed to the laying down by regulation of the maximum numerical strength of college or university classes. As matters stand at present, many students are unable to obtain education owing to want of accommodation in colleges. If colleges be compelled to make their classes smaller many more young men would be deprived of the advantages of higher education because the establishment of new colleges to accommodate them would be very difficult.

Large classes in universities and colleges do not in themselves imply inefficient education. "*The Student's Handbook to the University and Colleges of Cambridge*" for 1914-15 tells us: "A great part of university and college teaching consists of lectures, delivered to audiences varying from 10 to 300 students, under the formal conditions of the lecture-room". In Harvard University Professor Frank William Taussig's class in political economy often consists, of as many as 500 students. If wealthy and enlightened Cambridge and Harvard can allow such large classes surely Calcutta need not be ashmed of a maximum of 150 or 175 students per class. As for individual teaching in colleges no professor can pay attention to the individual needs of students even if the classes be as small as at Allahabad, namely, a maximum of 60. For individual teaching classes would require to be as small as of 12 students or, at the most, 20. The ideal of individual teaching is meant for schools. A college student should require only individual tutorial guidance, for which only a sufficient number of competent tutors is needed. School teaching should be so improved that students on joining a college may not require individual teaching, and may be able to follow and profit by the lectures of these professors, who should be able to make themselves audible and understood.

(*f*) *Post-graduate studies.* For post-graduate teaching only very competent professors should be employed. They should certainly be good scholars and able to deliver valuable lectures. But that is not the only qualification required. If, for example, a man is a scholar and a discoverer, in order that he may also be an ideal professor he should be able and willing, by capacity, by temperament, and by being not too old, to fraternise with his students in his, and their, studies, to make them co-workers with him in some study, investigation, or research, to guide them generally, and to show them how to become scholars and original workers themselves.

The University should appoint a sufficient number of such good professors. They should be appointed after due advertisement of vacancies in the

CHATTERJEE, RAMANANDA—*contd.*

papers. Candidates must show how by their academic training *in the subject to be taught*, and by their *experience* in teaching *that particular subject*, they are fit to fill the chairs. I have mentioned this ordinary method as it is not generally followed in the Calcutta University.

The University libraries, laboratories, and museums should be adequate for the purposes of such a large university as the Calcutta University. The other existing libraries, laboratories, and museums in Calcutta, whether in affiliated colleges or in institutions unconnected with the University, should be made easily available to advanced students by arrangement with their respective authorities.

Research and original work should qualify for the M. Sc. and M.A. degrees. I find, for example, that the Universities of Manchester and Liverpool confer the master's degree on those who have conducted research work. The University of Bristol confers even the B. Sc. degree for research. Our University, while ordinarily conferring these degrees after the examination of candidates, should confer them also for research.

In history and, where possible, in other subjects, great importance should be attached to the original sources of knowledge, their study, and work done in connection therewith. For example, in history, if a student can show that he has a competent knowledge of Pali, Persian, Marathi, Dutch, Portuguese, French, or Danish, and has done some original investigation with the help of historical materials in any of these languages, he should have extra credit for the same in his examination for any degree. Similarly, any important and valuable piece of geographical exploration, or any other kind of original work of recognised merit, should entitle a man to a suitable degree, *although he may not be even an undergraduate* of the University. His thesis, or the description of his exploration, or other work done, should be *invariably published simultaneously with the bestowal of the degree.*

Some of the syllabuses and courses of study require revising and supplementing. For instance, I think those who take up experimental psychology for their B. Sc. or M. Sc. degree ought to have a better, and a more practical, grounding in physiology than the regulations and courses of study would seem to show.

(*g*) The subjects taught in our University are not all that require to be taught. I shall say afterwards what other subjects require to be taught.

(*h*) *Concentration.* Any ideal system of education would require more money, more buildings, more equipment, more space, etc. I do not labour under the illusion exposed by Huxley in the following passage which occurs in an address given in 1876 to the John Hopkins University at Baltimore :—

"It has been my fate to see great educational funds fossilise into mere bricks and mortars in the petrifying springs of architecture, with nothing left to work them. A great warrior is said to have made a desert and called it peace. Trustees have sometimes made a palace and called it a university."

But still some sort of buildings are required, not to speak of equipment and teachers, all of which means money. We are at present a poor people. We are not, therefore, in a position to make provision for the highest training of a large number of students in all the most important subjects. The Calcutta University should, for this reason, concentrate its resources and efforts on a few chosen subjects instead of dissipating its energy over a large field of work.

The affiliated colleges, too, should specialise in particular subjects instead of doing indifferent work in a considerable number of subjects.

(*i*) As my suggestions involve extra expenditure in their carrying out education must needs become more expensive than now. The increased expense, however, should not fall on the students. The final report of the London University Commission suggests various improvements but, at the same time

recommends a substantial reduction in the fees to be paid by students. My suggestion, too, is that in our Government colleges the increased cost should be borne by the State. There should also be a large number of bursaries in them for poor students. In unaided colleges efforts should be made to obtain endowments from the public.

(*j*) *External degrees.* For poor students and others examinations should be held for the conferring of external degrees, as in London. I do not ignore all that can be said against such degrees. Nevertheless, I consider them essentially necessary in the present educational and pecuniary circumstances of my countrymen. The widest *spread* of the highest knowledge is at present at least as important for the people of India as the giving of the highest ideal training to a small fraction of our students. Any such spread of knowledge to an adequate extent can, for some time to come, be brought about only by some such incentive as the conferring of external degrees. If colleges be compelled to make their classes smaller than they are now the institution of external degrees would be still more necessary.

If both Government and the people be fully alive to the vital and indispensable need of education both the spread, and the improvement, of education can be secured.

CHATTERJEE, SANTOSH KUMAR.

Since the passing of the Universities Act of 1904 the Calcutta University has undertaken and organised the highest teaching both in the science and arts courses. The conditions of higher training suggested in question 2 have been partially observed in the latest scheme for the organisation of university study and teaching. But the actual performance seems to have fallen far short of the ideal owing to the following circumstances :—

(*a*) Absence of properly equipped libraries and laboratories. It is not possible for the University in the course of a few years, and with the limited resources at its disposal, to provide facilities for study and research on a scale at all comparable to those possessed by the old universities of the West. It may be reasonably hoped, however, that when the need of the University in these respects is properly realised sufficient funds will be forthcoming both from the Government and the public to enable the University to remedy this deficiency.

(*b*) But it is not always the machine that matters so much as the men who work it. In respect of the latter also much remains to be done. The present system of appointment of university teachers preparing students for the highest degree examination can hardly be regarded as satisfactory. With the assistance of Government the University has been enabled to found several chairs with fixed incomes. But the remuneration offered has not proved sufficiently attractive for scholars of high reputation in foreign universities: of the other teachers in several subjects many are fresh graduates of the Calcutta University with very little previous experience in teaching. This is an arrangement which can scarcely be expected to yield good results. The scheme suggested below may improve matters a little in this respect :—

(i) For each subject of study there should be at least one professor of high distinction and acknowledged authority in his own special sphere of study. Such men must necessarily be paid handsomely for their service. They may be appointed on the contract system for a definite period to suit their convenience. The area of selection should be as wide as possible. By their example, and through their guidance, men of this stamp will improve the general tone of university study and teaching.

(ii) Of the general body of university professors a considerable majority should be taken from eminent teachers in colleges, who have achieved high distinction

by their special aptitude for teaching or for original research. This arrangement will secure for the highest university teaching tried men of first-rate ability. At the same time, it will offer an excellent stimulus to teachers in colleges and so improve collegiate teaching as well.

(iii) The remaining body of whole-time professors may be recruited from a new class of university tutors. Brilliant scholars, who may intend to keep themselves attached to the University and to qualify themselves for university chairs without going through the probationary period of collegiate work, might at first be appointed university tutors for a limited period. Their work will be light and of a subordinate nature. They should not be placed in independent charge of teaching in any subject. They will have a subsistence allowance of Rs. 100 or Rs. 150, but they will have a special license from the University to supplement their income by private tutorial work among the University students, for which special facilities are to be provided by the University in the University Hall itself. Fresh from the University, and almost of the same age as the advanced section of the University students, they will be able very easily to mix with the latter on intimate terms and to guide them in their studies. Being at the same time associated with university work they will serve as a connecting link between professors and students. They should also be encouraged to undertake post-graduate research work in the University libraries and laboratories under the guidance of the University professors. Those among them who in the course of their five years of post-graduate and tutorial work prove their fitness for independent university teaching should be promoted to professorial chairs whenever an opportunity presents itself.

(iv) Eminent teachers in colleges whose services would be of great value to the University, but who do not find it convenient to give up their collegiate work, may be induced to deliver courses of lectures on their special subjects. This will benefit both the University and the colleges and will draw the two bodies closer together.

(v) Other distinguished authorities not directly connected with educational work may, in the same way, be invited to give the benefit of their experience and their labours to the University. I have no doubt they will gladly respond to this call. Their lectures should be open to the public.

There can be no doubt that the quality of teaching in the University will be greatly improved if it is organised in the way suggested above. Young Indians will thus have full opportunity of obtaining the highest training from the Calcutta University.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

The existing system does not afford full opportunity of obtaining the highest training. The existing system is defective in the following respects, amongst others :—

(*a*) Teachers are not so trained as to inspire confidence in their students and to imbue them with a love for the subjects taught and they are more like coaches to make their students pass their examinations.

(*b*) Proper equipment in the shape of libraries, laboratories, etc., are badly wanting in most of the colleges.

(*c*) The system is too dependent on examinations, and the energies of the University are at present mostly directed to holding examinations.

(*d*) Students see little or nothing of teachers outside the lecture hours, and there is no attempt on the part of teachers to get into touch with students.

CHATTERJEE, SATIS CHANDRA.

Highest training, in the sense in which it is now generally understood, is given, I think, to able and intelligent young Indians under the existing system of university education.

CHATTERJEE, SRIS CHANDRA.

The first point I would like to raise is whether or not the present system affords opportunities for the highest training. I must, first of all, consider what the highest training is. If the highest training is taken to mean, as I understand it myself, a state of efficiency favourable to the development of the manhood of the nation, if it means the acquisition of the powers of independent thinking and judgment, strength of character, firmness of will, and other manly qualities which should be necessary to equip a man for citizenship under a well-ordered polity, then my answer to your first question is strongly in the negative. I consider our University is at present producing machines, and not men. Our students learn not to think in ways of their own, but in stereotyped ways dictated to them by others, and they have no individuality of their own. A sound education, in my opinion, would involve not only the development of the intellectual powers, but also the cultivation of the moral and physical sides. The old Greek ideal conveyed in the phrase " a sound mind in a sound body " is not a bad one, though our Hindu ideal is even higher. The ideal of the old Hindus took notice of not only the intellect and body, but also of the ethical side of man. Under the present system of university education there are hardly any opportunities for the steady growth of intellect and physique together, not to speak of the development of the moral side of man. There is some attempt, no doubt, to develope the intellect, but no encouragement is found for the unhampered growth of the intellect even. The steady development of the intellect requires a degree of freedom, which is not available under the Calcutta University for more reasons than one. I personally think that freedom is inconsistent with the policy of Government, which is of a reactionary character. Freedom is noted with fear by Government as capable of engendering such aspirations in students as it would be difficult for Government to satisfy. Herein comes in one of the higher questions of administrative policy. In this connection, my humble suggestion is that freedom, with proper safeguards, ought to be allowed. I will take, for instance, one simple example. Burke's " Reflexions on the Revolution in France " was one of the most ordinary text-books of English literature in the B. A. course in the Calcutta University. I dare say you will agree with me when I say that one of the greatest political thinkers that flourished in England since the days of Lord Bacon was Edmund Burke, and his work on the Revolution is regarded as a classic. Though the general spirit of conservatism running through the pages of this famous book has not been generally approved yet Burke has discussed many political questions of priceless value in the course of that book. Such a book, I think, is pre-eminently suited to be placed in the hands of every student reading for his degree. This book would be excellent not only from the standpoint of literature, but also from the standpoint of politics. Such a book, I have reason to believe, will explode many an Utopian scheme of politics which might be troubling people dabbling in politics, and might bring home to every Indian the mistakes and follies of an infuriated people swayed by the airy and fairy dreams of Voltaire and other encyclopædists. Now, such a book, I hear, is condemned. I think better results would be produced if such a book were taught through capable teachers. This brings me on to another question. This is the difficulty of finding suitable teachers who might be allowed a degree of freedom of teaching. I, for one, would be the last man to allow freedom of teaching without responsible teachers. But, while the present system is in vogue, it would be difficult for you to get good teachers.

Under the present system Indian teachers have no opportunity to show their merits. If proper opportunities be given to them a sufficient number of teachers may be available who will, in time, fill up the places of the educationists brought from abroad, and thereby an economic problem also will be solved.

CHATTERJEE, SUNITI KUMAR.

'Highest training' is a very comprehensive term. If it means such training as is obtained in some of the best universities of the free countries of Europe and America it is hardly possible in an Indian university. The existing system of university education itself is not at fault; it is the presence of certain economic and other difficulties which renders highest training in its widest sense hard to achieve. The existing system has many deficiencies; but still it does afford to young Indians of ability considerable opportunities of obtaining the highest intellectual training available, at least in some directions; and a great many of its alumni can stand comparison with the best products of foreign universities. The deficiencies of the existing system, however, appear to be as follows:—

(*a*) Colleges cannot afford to employ an adequate number of professors through want of funds. This has brought about the present desperate proportion in the number of the teachers and the taught—one professor, in some cases, having to deal with nearly a thousand students in the course of a week. The chances of association between the professors and the students are thus reduced to a minimum. This is true in respect of college education mainly. This state of things does not affect the best students very much, but the students of ordinary merit suffer considerably.

(*b*) Higher education is not controlled by people who are best fitted to do it, *viz.*, professors actually engaged in the work of teaching. A change in the right direction has recently been made in the case of post-graduate studies by creating councils and boards of higher studies.

(*c*) Owing to economic reasons over which the University has no control the degree has acquired a false and disproportioned value. The efforts at reform by the University as well as efforts at good teaching by the professor, are both powerless to prevent the mercenary motives of study, which are bound to be present in most young men in all lands, but which cannot but lower the educational ideal. But, in India, at least in Bengal, young men whose natural aptitudes are other than academical are forced to resort to the University as most professions (*e. g.*, commerce, industry, army, navy, etc.) are barred to them. The few professions which they can take up can be approached only through the University. Thus, very many come to the University not with a desire to learn, but to get a degree.

(*d*) A foreign medium of instruction with which the student has to grapple at every step tends to stifle all power of independent thinking in the continually increasing number of college students, and affords a strong encouragement to cram.

(*e*) Absolute lack of opportunities of physical training. Physical drill and military training should be enforced, and manly games and sports should be encouraged by the University.

(*f*) Want of corporate life among the students.

(*g*) Want of proper facilities for study owing to lack of well-appointed libraries, laboratories, and museums in most of our colleges.

(*h*) European teachers, in many cases, are wanting in knowledge of Indian conditions, and requirements of Indian students. The remedy lies in insisting on Indian experience, and on acquaintance with the students' vernacular (except in the case of experts or scholars of recognised eminence), but, preferably, in having Indian teachers with European training.

CHATTERJI, MOHINI MOHAN.

The existing system of university education is deficient in the respect that it does not train young Indians to be fitted by character and ability to guide their countrymen in the affairs of life.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH—CHAUDHURI, BHUBAN MOHAN—CHAUDHURI, HEM CHANDRA RAY.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

I do not.

Training depends upon what one is being trained for, but the existing system is without an ideal or a definite ultimate aim.

The country wants education to enable the people to stand on their own legs in every respect, "to prepare them for complete living," to develop their work-power and character-power; to give them all-round strength.

A system originally meant for obtaining efficient clerks and now, to a limited extent, for vocational work, is failing to meet the progressive needs of our people.

Our University has failed to appreciate that it ought to help the process of nation-building. "It is not inspired by motives which answer to deeper things in human nature and the higher things in human aspiration." It is not based upon things which lie close to the hearts of our people.

It has little regard for our permanent environment.

It is a makeshift, and without a corporate life.

It has not been allowed sufficient freedom of growth.

Its utility is doubted, and it is viewed with suspicion, as tending to disloyalty. Educational institutions are now subjected to undue political surveillance.

There is a lack of proper teachers.

In Government colleges the foreign element is placed on an undeserved and undesirable basis of superiority. The Indian teacher occupies an inferior position.

It is believed that benefactions which favour the employment of Indian teachers, even of undoubted merit and ability, are not adequately supplemented by Government grants. They are not sympathetically treated, and the work suffers in consequence.

Most of the teachers are too poorly paid. It does not seem to have been realised that the teacher ought to be freed from pecuniary anxiety so as to be able to consecrate his life to his work.

The system suffers from :—

(*a*) Want of funds.

(*b*) Want of sufficient co-ordination of the subjects of study; of adequate facilities for co-operative work between teacher and student.

(*c*) Harsh and harassing rules of attendance.

(*d*) Stringent methods of examination—which have degraded teaching to coaching.

CHAUDHURI, BHUBAN MOHAN.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining highest training, because :—

(*a*) the teachers are mostly of mediocre ability;

(*b*) there are no opportunities of free intercourse between teachers and students; and

(*c*) the education is not on national lines.

CHAUDHURI, HEM CHANDRA RAY.

The existing system of university education has the following defects :—

(*a*) Persons actually engaged in the work of educating young men have not their proper share in controlling education (post-graduate teaching alone excepted).

(*b*) Education is mainly imparted through the medium of a language which is not the mother-tongue of the people of this province.

(*c*) There is a considerable disparity between the numbers of teachers and taught. A single professor has, not unoften, to lecture to nearly half a dozen classes, each consisting of hundreds of students. As a result there is, except in rare cases, a total absence of that close contact between the professor and his pupil which is essential for sound education, and which obtained in India in ancient and mediæval times.

CHAUDHURI, HEM CHANDRA RAY—*contd.*—CHAUDHURI, The Hon'ble Babu KISHORI MOHAN—CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY—CHAUDHURY, The Hon'ble Nawab Syed NAWABALY, Khan Bahadur.

(*d*) Of the section of the teaching staff coming from outside India many do not understand properly the needs of Indian students.

(*e*) The University does not provide physical training.

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

I am not prepared to say that the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. Sir Asutosh Mukherjee, Sir Rashbehary Ghose, Sir Gooroo Dass Banerjee, Dr. Brajendra Nath Seal, and other eminent men can safely be pointed out as the best products of the existing system; and I believe they can hold their own in their respective spheres with the distinguished scholars of the world. By the existing system I mean the University as a merely examining body exercising its influence over, and shaping the character of the students through, the courses of study prescribed, periodical examinations held, award of scholarships and prizes upon the results of the examinations, and general supervision over the teaching staff.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY.

No; the following are the main defects:—

(*a*) Brilliant students in our colleges are placed in the same classes with ordinary students so that the degree of progress is rather slow. Teaching is not of a very high order.

(*b*) Professors also are not always of very high proficiency, or sufficiently large in number.

(*c*) Well-equipped laboratories and libraries are very often wanting, and personal help to, and care of, students by professors is impossible in classes which are usually very large.

(*d*) Passing examinations being the main aim of students they care more for being prepared to answer likely questions than for acquiring a thorough knowledge or grasp of their respective subjects. The merits of professors also being often judged by the number of students they can pass, they also care more for preparing students for answering examination questions than for imparting a sound knowledge or making students masters of their respective subjects of study. The system of examination, and the unusual importance given to results of final university examinations in determining the future of students, are responsible partly for a want of earnest effort for giving, or getting, the highest training in our University.

(*e*) Professors are selected from among students who stand high in their examinations, without any regard to their real nature—to their real liking or disliking—the result being that many professors have really no heart in their work, and some accept such service having no other vocation of life to pursue.

(*f*) A great portion of the valuable time of our students is wasted owing to the necessity of their having to learn every subject through the medium of a foreign language. This is, undoubtedly, the greatest evil which results, in many cases, in the ruin of their physical health and retards their progress in studies and leads to the perpetuation of the universally admitted evil of cram.

CHAUDHURY, The Hon'ble Nawab Syed NAWABALY, Khan Bahadur.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. The following are some of the principal causes which are responsible:—

(*a*) A vast majority of young men who seek admission to university courses are ill-equipped and unfit to receive university education in the strict sense

of the term. The kind of training they receive in schools is so perfunctory that they are unable to take full advantage of the University course. They cannot appreciate its value. In the University the medium of instruction is English, but students who come out of the entrance examination are mostly not well-grounded in the language, and this adds to their difficulty. They cannot, in most cases, follow the college training. Moreover, under the present system, a majority of those who join the University are of an age when their critical faculty is undeveloped and, at best, are capable of committing everything that comes before them to memory. The provision of research is of no avail when work carried on for the B. A. degree has to be, by necessity, but an extension of school work. The type of students necessary for research are not those who usually take the B.A. degree in the Calcutta University.

(*b*) The system of examination is another great deterrent factor in the way of true learning. The University degrees are but passports to places in Government service, and the student's primary aim in the college is that he should somehow try to obtain the necessary degrees. He has generally no interest in his subjects beyond the satisfaction of conforming to the requirements of the examiner. He, therefore, crams, rather than digests the subjects of study. He mainly depends on the bazaar 'keys' rather than on what his teacher might say.

(*c*) From the teacher's point of view the above-mentioned defects act very prejudicially to the interest of efficient teaching. In the first place, the material being bad, honest teachers confine their attention for a considerable portion of every year to grounding students in English. This, naturally, obliges the teacher to forgo his legitimate work. He cannot satisfactorily attend to developing the critical faculty in students, nor create in them a desire for attaining the truth. He is moreover handicapped by the restrictions placed on him by the University to confine himself to the curriculum prescribed for him. He has not that freedom of teaching which is essential for true university work. This as regards the first-rate professors. But, when we consider that a large number of those entrusted with teaching are men who have taken to education as a convenience and whose heart is not in the work, the matter becomes much more serious. They are, somehow, to manage students to get through the University examinations. They teach with that aim, and the result is obvious. Even when they are earnest the number of subjects they have to teach prevents them from specialising in any one particular subject; so much so that the kind of instruction they impart to their students is not of a high order. They but perpetuate the weaknesses which students carry with them from their schools into the college department.

(*d*) Lastly, the present system does not provide a free intercourse between the teacher and the taught. The teacher comes into his college class, delivers his lecture, and has no more connection with his pupils. The system, moreover, does not look to the training of the moral side of the student, without which no amount of intellectual training will give him the wholesome and enlivening culture expected of a university training.

CHOUDHURY, Rai YATINDRA NATH.

The existing system of university education in India cannot afford to young Indians full opportunity of obtaining the highest training. The reason is obvious, and it seems to me to be strange that the matter has not attracted the attention of the public, the University, and the Government in a manner that it should have done. The chief difficulty and obstruction in the way of the assimilation and expansion of higher education in India is its present peculiar condition by which all higher training is practically confined to the English language. The difficulty of mastering a foreign tongue, and there being no other way of obtaining higher training than what can be obtained through the English language, is a distinct bar in this

CHOUDHURY, Rai YATINDRA NATH—*contd.*

country for the diffusion and proper assimilation of higher training. The question is a very difficult one, and no systematic attempt, so far as I know, has yet been made to study it, and to find a solution for it. It needs no demonstration to show that students cannot thoroughly assimilate the teaching imparted to them through the medium of a foreign language. Add to this that they are required to study the English language not as a language, but that they have to learn everything practically through that foreign language from their boyhood. This is bound, in the majority of cases, to produce a damper on the acquisition of knowledge. The system, grotesque as it is, goes deep into the fabric of our educational machinery and acts as a canker which destroys the energy of our youths and saps the educational stimulus at its very root. It is very satisfactory, however, that the attention of the highest authority in the land has been now drawn towards this question.

Education, both high and primary, has one aim only. It tries to fit its recipients to be better citizens and better and truer men. That education is the best which calls forth, to the full, all the latent capacities of man. To do this you must give its recipients true knowledge and higher and nobler ideals. These, in these days, can only be given, and that effectively, by means of teaching imparted through the medium of languages. Now, if this is so, then there can be no doubt about the fact that that language is the best, and most suitable, medium for imparting education which is the mother tongue of students. Otherwise, the assimilation of all higher teaching, difficult as it is, is necessarily hampered by the imposition of a further difficulty, that is, the difficulty of being compelled to learn everything through the medium of a difficult foreign language. It has been said that it is very creditable to the Indian students that they have, notwithstanding this language difficulty, succeeded in many branches of higher knowledge. I, as an Indian, am proud of this fact of our intellectual superiority being admitted but, at the same time, I submit this intellectual superiority should not be left to be neutralised by leaving things where they are now; but it should be utilised by facilitating the imparting of higher knowledge in a way, and in a manner, whereby Indian students may be free from the difficulty in having imposed upon them the language-bar or, in other words, the difficulty of having the English language (a difficult foreign tongue) only as the medium of instruction, so that they may have full opportunities for the free growth of their intellect and their intellectual pursuits. From the above it will be apparent that I urge, amongst other things, that steps should be taken by which it will be possible for the Indian students to receive all their training through the medium of their mother tongue. I admit that the proposition which I lay down here is very, very difficult. I know that under the present state of development of the Indian vernaculars it is extremely difficult to accept them fully as the medium of instruction, especially for higher instruction. But if we admit, as we are bound to do, that all instruction should be imparted in a language which is the mother tongue of students, in which they think and speak, then there can be no question about the medium of instruction. Here we should not forget to take into account :—

(*a*) The present peculiar condition of India.

(*b*) The circumstance of the non-development of our vernaculars (our people and our Government not having up to now devoted their time and attention to this aspect of the question).

It comes to this, then, that we cannot immediately introduce our vernaculars as the medium of instruction, especially at its higher stages. Consequently, the problem resolves itself into these :—

(i) How to lay the foundation of accepting our vernaculars as the vehicle of instruction in all its stages?

(ii) How to manage educational matters in the present state of the development of our vernaculars (which I shall call henceforward the transitional stage) so as to reach our goal of accepting our vernaculars as the only media of instruction?

(iii) What arrangements the University is required to make for the growth and development of our vernaculars so as to make them suitable vehicles for higher instruction?

In order to remedy this situation I beg to submit that in the law regulating our universities there should be a distinct statutory declaration to the effect that, say

CHOUDHURY, Rai YATINDRA NATH—*contd.*

twenty or twenty-five years hence, all education, high and low, should be imparted through the vernacular of the province. This declaration of educational policy by our Government will mark a new era in the history of the educational development of our countrymen and will ultimately solve a very difficult and complex problem arising from the peculiar condition and circumstances of our country to the satisfaction of our countrymen and to the immense benefit of the cause of higher education here. Education in a country, to be useful and fruitful, should be imparted only through the language in which its people habitually think and speak. This proposition is so self-evident that to my mind it requires no demonstration at all. But, here, we have many misconceptions regarding this fundamental truth. Many of our countrymen, and I regret to see that there are many educated men amongst them, are of opinion that the substitution of our vernaculars for the English language as the medium of instruction will stifle higher education in the country. They are under the delusion that no high education is possible in this country, save and except what is, or may be, imparted through the medium of English. If we pause for a moment to consider what this proposition means then I think that we shall be able at once to find out its utter worthlessness and, moreover, the wrong we are doing to our countrymen by sticking to this unjust and unnatural method will be apparent. Knowledge is not to be confined to the privileged and favoured few, but to be spread broadcast. Now, as is the present case, if you confine all higher education to the English language, then we naturally exclude those who are not already, and are not going to be, conversant with that language. This exclusion means nearly 70 or 80 per cent of our people who ought to be educated. Regarding those who obtained higher education through the English language it can be safely doubted whether the majority of them have been able thoroughly to grasp and assimilate the ideas conveyed to them, and whether they have been able fully to utilise their knowledge, commensurate at least with the labour and energy they have spent on the acquisition of their learning. It, therefore, creates a situation in which our students are required to waste much of their time in memorising foreign words, instead of spending their energy on assimilating new thoughts and new ideas. Similarly, to express their thoughts our students and teachers are compelled to make use of a foreign language, and the consequence is that they are now necessarily bound to express their imperfectly assimilated thoughts in a borrowed language only. This means that they are not perfect masters of their own thoughts and expressions and they are, so to speak, cut off completely from their environment and surroundings. The knowledge which is thus imparted, being confined to a few, cannot bear all the fruit which can be naturally expected from it. Therefore, it can be safely concluded that the present system injures those who are educated, and prevents the natural expansion of knowledge amongst our countrymen. The knowledge obtainable under the present system can be comparable with the riches in a fairy tale which are to be found in an island completely separated by magic, as it were, from the surrounding world. These riches do not benefit completely those who possess them, nor are they fairly distributed among the people for their use and enjoyment. The system seems to be self-condemned if we consider for a moment seriously about it.

The absurdity of the present system will appear in all its ugliness if you try to transplant it in a country like England. Suppose the authorities there make an attempt to introduce a foreign language, such as Bengali or Marathi, as the medium for the secondary and higher education of Englishmen. Then we know what would be the natural feelings of our fellow-subjects there; the system would be stopped at once. What applies to England applies to India also. There may be historical reasons why we have put up with our system up till now, but that is no reason why we having awakened to the fundamental defect of the system, should not try to reform it. It may be said in reply that, owing to the peculiar conditions of India, higher education cannot but be imparted through the medium of the English language, because the vernaculars of the country (especially at the time, nearly 80 years ago, when the question of the medium of our instruction was decided) were not, and are not now, fully developed to be the suitable media of imparting higher knowledge. The Company's Government at the time were chiefly concerned with imparting English education for getting suitably educated Indians for the Company's service only on cheaper pay, because they at the time were compelled to appoint Englishmen or Eurasians on higher pay to the detriment of their profit as a mer-

CHOUDHURY, Rai YATINDRA NATH—*contd.*

cantile company. We may obtain some explanation of the absurdity of the present system in the fact above alluded to. But that is all the more reason why we should now concentrate all our energy on the point and try to make up the leeway as soon as we can. Knowledge of facts and their laws, both in the domain of animate and inanimate matters, is all that we are required to know and, in knowing all these, our intellectual faculties also developed *pari passu*. All education, to be sound and useful, is to be imparted in a way in which students can easily assimilate all the ideas based upon knowledge of facts and their laws concerning matters, animate and inanimate, and thereby can invigorate the growth of their intellectual and other faculties. Now, by making the English language, instead of our own vernaculars, the only medium for the instruction of our countrymen we are striking at the very root, so to say, of all knowledge. It may be said that it was impossible to think of any other course than that which was actually adopted by our rulers for imparting education in this country. I cannot agree to an argument like this. What I think should have been done by our rulers was to adopt a course which has recently been adopted in Japan. Japan has tried to assimilate all the new ideas through the medium of their own vernacular, and look at the marvellous success which she has attained thereby. The point that matters in education is the knowledge of facts and their laws and not the medium through which it is imparted. The question of the medium is important only so far as it makes the imparting of knowledge easy and natural. Taking this view of the question, I think the conclusion to be irresistible that one's own vernacular is the best medium for instruction. It may be that in some cases, as in India, all knowledge cannot at once be imparted through the Indian vernaculars. I admit the truth of this proposition to a certain extent, but what I think we should do, and what our authorities should have done, is not what they did. Steps should have been then taken to take advantage of the English language as a temporary medium, being necessary for the transitional period only, and no further. That the then authorities did not find their way to do this was the chief defect in the educational system they inaugurated. It cannot be urged that the vernaculars of the country did not at that time possess sufficient capacity for growth to the extent that higher education could be introduced through their media after a short time. I can speak of my own vernacular, which has at its back at least six or seven centuries' history of literary activity, and say that it was not impossible at the time to take advantage of it for the purpose for which I am pleading here. What I say here of the Bengali language, my own mother tongue, applies *mutatis mutandis* to all the principal Indian vernaculars. Indian languages, at least most of them, are Sanskritic in origin. Having such perfect languages as Sanskrit and Arabic at their back no vernacular in the country can be considered as wanting in capacity for its full growth. I do not say that our rulers have been entirely unmindful of their attention for the development of our vernaculars. They have done something for them, and there are to be found in many of their despatches and other similar papers an enunciation of a policy for fostering the growth of our vernaculars. But most of them are mere pious wishes, and not settled policies of Government for translation into action. If the latter course were adopted we would not have lagged so much behind Japan in the matter of the growth of our vernacular. Our rulers should have encouraged our vernaculars to become suitable media for the instruction of our people and that they have made a serious mistake in not doing so can be proved from what has happened in Japan in matters educational. What is possible in Japan with the Japanese language is much more possible in India. I think no sane man can seriously doubt the truth of this proposition.

The acceptance of the English language, a foreign tongue difficult to master, as the only medium for the education of this country has had a very disastrous influence on the physique of our countrymen. We all know how, by the pressure upon our youths in attempting to learn this foreign language, and by the consequent strain upon their mind and body, they, or at least most of them, have become so many physical wrecks.

This unnatural attempt of instructing our youths through the medium of a difficult foreign language only, and without any attempt being made to relieve this unusual strain upon our youths, naturally resulted not only in their health being blighted, but also in sapping that free intellectual growth which really serves the purpose of all

CHOUDHURY, Rai YATINDRA NATH—*contd.*

sound and true education. The result is so obvious that it is somewhat strange that the attention of our countrymen has not hitherto been sufficiently attracted to this aspect of the question. Even under Muhammadan rule, which is admittedly not so enlightened as the present British rule, Bengal produced such intellectual giants as Raghunath Siromani and Sri Jiva Goswami, to take two names only from one branch of human learning. These philosophers have made solid and substantial contributions to the cause of human learning that will be remembered and revered in every place and age where and when intellectual virtues are respected. Can we show to our credit any one under the British rule who can hold his own before these men of giant intellect? It is not meant that we have deteriorated and that we lack in intellect. The intellect is there, but we lack the conditions which alone can give free play to our intellect, so that we may take our proper place in the republic of learning. What I have said about one department of learning in Bengal will apply to other provinces also. Having given here in a very short space the defect of the present system I shall now deal with the steps which I consider to be the only course that our Government should adopt to make up the leeway and to regulate the future course of our educational system so that our students may be relieved of the present severe strain, and will receive that stimulus for the free play of their intellect without which no sound education can be worth the name. I must admit here that, circumstanced as we are and for reasons of our self-culture also, we cannot forsake the English language and literature. For our better evolution, complete self-development and adequate progress it is supremely desirable that we must give a prominent place to that language and literature. But our goal should always be to take advantage of it for the development of our own vernaculars so that for the instruction of our students we may go without the English language in future. With this view I would have English up to the matriculation as a language only and after this standard, for the transition period, we must retain the English language as a medium for all higher knowledge in such branches of learning as Western logic and philosophy, history, mathematics, sciences, both theoretical and applied, technology, etc., with a graduated freedom given to the professors to teach these branches through our vernaculars and to the students to write out their answers through their mother tongue. And when the time comes—and God grant that it may come soon—that our vernaculars are sufficiently grown and developed we should have our national university completely run in our vernaculars. It would then be our business to take English only as a language and accept its study as facilitating one's higher studies in different branches of human learning as any modern nation learns, say, for instance, French, German, etc., to go deep into the study of the mental and material sciences. With a clear enunciation of our situation, and our attempted goal, I think it would only be necessary to work out the details as to how to attain our object. I propose, therefore, that Government ought to decide the question of the medium of instruction for Indians once for all and make the necessary statutory enactment for declaring that all Indian universities should make the respective principal vernaculars of the different provinces in India the only media of all higher instruction and that they should adjust within the time specified therein their present system to the goal mentioned above. Thus, the universities, each in her own province, should work out in detail how to foster higher education and make the above goal a *fait accompli*. I shall give here only what I think our University should do in this connection. The following steps ought to be taken during the transition period :—

(*a*) The training of suitable teachers by placing them under first-class scholars both European and Indian, in order to make them thoroughly versed in their own subjects and encouraging them to communicate their knowledge in the Bengali language. With this view our University, aided by suitable grants from our Government, should employ really first-class men to take up the training of our graduates for the purpose. Students placed under them should be encouraged by adequate studentship, with a distinct condition that they would be obliged to deliver lectures or write books, *i.e.*, in Bengali, on their own subject. This will help to create a good literature on the different subjects of learning in our mother tongue without which the instruction of our students in their higher studies through our vernacular would be impossible. Advantage may be taken of these teachers

CHOUDHURY, Rai YATINDRA NATH—*contd.*—COCKS, S. W.

to utilise them as research professors, of which so much is heard and has been written in these days.

(*b*) The inauguration of a system of university extension lectures to be delivered in Bengali by competent graduates already existing, and those who would be trained in the way mentioned in clause (*a*) in different subjects of human learning, such as mental and moral science, both Eastern and Western, history, antiquity, sociology, economics, mathematics, material science, both theoretical and applied, and technology. This system will popularise the scheme of higher education through the medium of our own vernacular and will go a great way in facilitating its growth and development. This will also help the preparation of good text-books. No good text-books on any subject in any language can be prepared except after a careful exchange of thoughts between the teacher and the taught carried on for a considerable period in that language. This is the only means by which a language grows. We cannot have a suitable text-book by simply ordering it and employing competent scholars knowing only the subjects and the language in which the books are to be written.

(*c*) Allowing the professors in our colleges even under the present conditions to deliver their lectures in Bengali and the students to submit papers in their examinations written in Bengali. This would be no new thing for our professors because many of our eminent professors even now do it informally. There are some subjects in which we can adopt this course at once, such as philosophy, history, and second languages, especially Sanskrit and Arabic; our professors can at once easily deliver their lectures in these subjects in Bengali and our students can similarly write their examination papers in Bengali without doing the least injury to themselves or to the cause of higher education. Of course, it may be necessary, for a few years at least, to have European scholars for teaching European history; in this case, it may be, at the beginning, desirable to make the study of European history in English compulsory when no suitable Bengali scholars are available for the purpose. All the same, it is necessary that our university authorities should have the power to choose what subjects are to be taught and examined in the Bengali language and when. It is needless for me to say that the above authorities would control the matter, keeping always in view the two following fundamental principles, namely, that :—

(i) the cause of higher education does not suffer by prematurely allowing lectures and examinations to be conducted in Bengali; and

(ii) sufficient encouragement be given, and not withheld, to the satisfactory and early growth of the system of teaching and examining our students by, and through, the Bengali language. This is the reason why I have said before that graduated freedom ought to be given to the professors and our students to make use of the Bengali language in the matter of higher study.

I am sure that by accepting these principles, and by giving them early effect, much of our leeway would be made up; the question of higher education in this country —a very difficult and complex one, I admit—would be solved and a true and sound foundation of higher education, with its desirable expansion, would be laid; otherwise, much waste of energy, with a poor result only, would be the inevitable consequence.

COCKS, S. W.

It is difficult to treat this question apart from question 2. The four conditions therein suggested of university training at its best must command general acceptance, and it is clear even to one who has had limited opportunities of studying university education in Bengal that the existing system fulfils conditions (*a*) and (*b*) only in part and conditions (*c*) and (*d*) not at all. It follows, therefore, that the answer to the first question must be in the negative.

COCKS, S. W.—*contd.*—COLEMAN, DR. LESLIE C.

The root of the matter is, in my opinion, the low minimum age fixed for the matriculation, and the consequent low standard of attainment that has to be accepted. The result of these two causes is the admission to the University of large numbers of students who are not qualified either by age or education to benefit by university training of the best type. For two years at least they must be treated as schoolboys and confined to more or less rigidly determined lines of study. Classes generally are large, and personal tuition and guidance become the exception, not the rule.

An affiliating university must, in relation to most, if not all, of its colleges be mainly, or entirely, an examining university. The Report of the Royal Commission on University Education in London pertinently remarks:—"Whatever importance may be attached to examinations an examining board can never constitute a university". Only a teaching university can fulfil the proper function of a university, and an affiliating university is prevented by mere considerations of space and time from becoming mainly a teaching university. Its energies must be devoted to devising courses of study and examinations that will provide more or less adequately for the needs and circumstances of colleges working under diverse conditions. Such courses must, in view of the existing relations between the college and the university, tend to be definite and rigid and to leave little freedom in teaching and study. Thus, the examination becomes the end and object of the teaching and a university degree is accepted as a proof of university training. A simple, concrete instance of the unhappy results that proceed from affiliation with a university in a distant centre may be seen in the custom that formerly prevailed in Burma of teaching matriculation candidates "common errors of speech", which a Burman would never make, culled from an English grammar used by Indian students, in order that the Burman student might be able to answer questions on these in the examination.

The overcrowding of university centres with students unfitted by age or attainments to undertake with profit a university course on the best lines obviously renders collegiate life, as it is understood in England, out of the question and, thus, one of the chief advantages of university training is lost. It is unnecessary to dilate on this point. Witnesses better acquainted with the hostel system, and the conditions under which non-resident students live in Calcutta, are more competent than I to deal with this aspect of the question.

The efficiency of an affiliating university suffers from the dispersal of the teaching ability scattered through the different colleges. So far as the students of the various colleges are capable of working under the same conditions they would benefit by concentration. Where considerations of race, national character, or local conditions render concentration at a centre undesirable the affiliated college should be regarded as the nucleus of a future university, to be developed as soon as possible. Some such process appears to have occurred in Manchester, Liverpool, and Leeds, which were formerly affiliated as the Victoria University. One obstacle in the way of concentration would be removed by gradual transference to the schools of the work now done during the first two years of the university course. The university course would then begin where the baccalaureate courses now begin. This suggestion has already been made by three members of the Royal Commission of the Indian Services, of whom Mr. H. A. L. Fisher was one (see schedule I of annexure IV of their report) and is nearly identical with the proposal made by a committee of the British Association in 1912 and approved by the Royal Commission on University Education in London.

COLEMAN, DR. LESLIE C.

I consider one of the main weaknesses at present is the lack of first-rate men as professors. The remedy is obvious. Salaries will have to be raised and greater care exercised in selecting men.

COVERNTON, The Hon'ble Mr. J. G.—CROHAN Rev. Father F.—CULLIS, Dr. C. E.

COVERNTON, The Hon'ble Mr. J. G.

At present the existing system of university education does not afford full opportunity of obtaining the highest training. There are several reasons for this.

In the first place, the lower portion of the university course is little better than a school course. The students entering the university are too young and without a sufficiently high secondary education to enable them to enter on a real university course as soon as they go to college. Hence, the first two years of their university studies would be much better devoted to more thorough work on secondary school lines. If the secondary education system were improved and lengthened students of ability entering the university would be able to get a better grip on university subjects and thus would be better equipped for the higher work when they came to it in due course.

Secondly, the methods of the present system are not such as to afford the best training. Students look too much to examinations and much of the work done is merely of a mechanical kind for particular examinations. This applies not only to a large majority of students, but also to many teachers.

Thirdly, as things are at present, the supply of teachers able to furnish higher forms of training is very limited. So long as the mass of students think mainly, if not solely, of passing examinations and thereby getting a Government job, the supply of really capable teachers of high grade will always be small. The present system, in fact, involves a very vicious circle. The existing university methods and ideals are not such as to turn out a sufficient number of really high class university teachers, but until the universities can produce teachers of this class in adequate numbers a real reform of university methods and the attainment of higher ideals will remain extraordinarily difficult. The way out of the impasse is, it seems to me, to encourage, as much as possible, the migration of promising graduates to European centres of learning where they can acquaint themselves at first hand with modern methods and, after undergoing training in the West, can return to India and endeavour to put in practice what they have assimilated.

Lastly, if opportunities of obtaining the highest training are to be afforded, much more money will have to be spent on equipment, buildings, and, to a certain extent, on salaries. Until of late the Indian universities have really been regarded as little better than schools and have been run on the cheap accordingly.

CROHAN, Rev. Father F.

The existing system of university education certainly affords young Indians opportunities of obtaining a high degree of intellectual training, if properly applied. But, as things really are, it seems more than doubtful whether many of those who go through the University can, at the end of their studies, be regarded as men of intellectual culture. The fault lies mainly in admitting to the University a large percentage of students who are quite unable to secure the advantages it offers.

CULLIS, Dr. C. E.

The highest training of a student of ability is obtained when he works either individually or in quite a small class under the guidance of a competent teacher who is able to direct his activities and take a personal interest in his progress. Indian students are particularly able to profit by such training.

In recent years training of this kind has been, generally speaking, impossible because of the great increase in the number of students, unaccompanied by a proportionate increase in the number of teachers. It was more possible in the early days of university education

CULLIS, Dr. C. E.—*contd.*—CUNNINGHAM, The Hon'ble Mr. J. R.—DAS, Rai BHUPATINATH, Bahadur—DAS, BHUSHAN CHANDRA, and RAY, BAIKUNTHA CHANDRA—DAS, Dr. KEDARNATH.

when the number of students was small. It requires the existence of a body of teachers, large in proportion to the number of students, having a considerable amount of leisure and freedom.

The chief defects have been the unduly large classes and the excessive demands on the time of the teacher. Improvements are too often expected from an addition to the duties of the teacher which impairs his efficiency.

CUNNINGHAM, The Hon'ble Mr. J. R.

It is plain that young Indians of ability are not now being afforded by the University of Calcutta an opportunity of obtaining the "highest" training. I would not, however, attribute this entirely, or even mainly, to the existing *system* of university education, deficient as this system may be from many points of view, or conclude, in view of recent developments, that it is not possible to afford under this system opportunities of obtaining a very high quality of training.

The main respects in which university practice is at present deficient are probably the absence (subject, of course, to exception) of the conditions suggested in question 2 as requisite for university training at its best. To this I would add the unavoidable assumption by the University of onerous educational responsibilities which are incompatible with the maintenance of a high academic standard throughout and its neglect or inability, in the concentration on a discipline mainly examinational, to provide as adequately for other and important aspects of university life.

DAS, Rai BHUPATINATH, Bahadur.

The highest training means, I think, the healthy and harmonious development of the physical, intellectual, and moral qualities. In the present system of education moral training is omitted altogether. Provision should be made for moral instruction in schools not by means of abstract lectures, but by means of properly selected books of the kind of "moral class book" which used to be widely read in schools twenty or thirty years ago; and also books containing short lives and anecdotes of men who led exemplary lives.

As regards the intellectual side, I think there ought to be more facilities for M.A., M.Sc., and research work. A few teachers of the kind recommended in paragraph 10, chapter X, of the Report of the Dacca University Committee are required who are original investigators of established reputation and who will be able to stimulate research.

DAS, BHUSHAN CHANDRA, and RAY, BAIKUNTHA CHANDRA.

So far as intellectual training is concerned the Calcutta University is moving in the right direction, but there is much room for improvement in physical and religious training.

DAS, Dr. KEDARNATH.

The existing system of university education does not afford to young Indians full opportunity of obtaining the highest training, because :—

(*a*) the standard of general preliminary education for entering the University is very low. The school education is defective, the curriculum being such that a student can enter the University without knowing anything about such important subjects as history and geography;

(*b*) of the lack of facilities for independent research work;

(*c*) of the lack of proper guidance;

(*d*) of the lack of desire and enthusiasm on the part of the students to obtain higher training; and

(*e*) of the lack of adequate openings for students with higher training.

DAS, SARADAPRASANNA.

If the highest training means the highest *intellectual* training the existing system of university education may be said to afford, to some extent, an opportunity of obtaining the highest training. Within recent years a stimulus has been imparted to research work in the Calcutta University, under the guidance of able professors, by the institution of some research scholarships and by the creation of some university chairs. The opportunity thus afforded is, however, limited. The existing system is deficient mainly in the following respects:—

(*a*) Post-graduate students do not at present receive sufficient personal guidance in their study. In the absence of such guidance even the abler students are apt to confine themselves only to such study as will stand them in good stead during the university examination to the complete neglect of a wider study calculated to develop in them a taste for independent investigations and a spirit of research.

(*b*) In some subjects the post-graduate classes are unduly large. The large size of these classes makes it financially difficult to place all post-graduate students under the personal guidance of teachers or tutors of first-rate ability.

(*c*) Properly equipped libraries and laboratories to which all post-graduate students and teachers might have access are wanting.

DAS GUPTA, HEM CHANDRA.

My answer is in the negative, using the expression 'highest training' in the sense of post-B.A. or post-B.Sc. and post-M.A. or post-M.Sc. training. Until very recently the post-graduate, *i.e.*, post-B.A. and post-B.Sc. teaching was very much disorganised and there were unnecessary multiplications of lectures, with the result that lectures were not of a type that might be expected from one who had made a special study of any particular branch of a department of learning. With the lectures falling below this standard it is no wonder that, in many cases, they failed to stimulate a genuine desire for the pursuit of knowledge. Under the very newly constituted machinery this defect, it is hoped, will be remedied.

Concentration of the energies of post-graduate teachers is not the only thing that is necessary. I think that it is also one of the duties of the University to see that teachers of different branches get an opportunity of visiting the different seats of learning in Europe, America, and Japan periodically, so that they may come into personal contact with the leaders of thought in the different parts of the world, that they may exchange ideas and experiences and get first-hand information of all advances and improvements attained at those centres.

The University should also undertake some amount of post-M.A. and post-M.Sc. teaching and, at this stage, the brilliant students of the University should have opportunities of working under professors of high educational calibre who have already substantially contributed to the stock of human knowledge. By the endowment of a few chairs a beginning, in this direction, has been made, but it must be confessed that the beginning is a very poor one. Professors of high distinction and repute should be appointed for a number of years in all different departments of knowledge. They should be as free as possible from any routine work, such as teaching a class of students for degree examinations. Their whole time and energy should be spent in carrying on their own investigations, helping the university lecturers and assistant professors with their mature experience, and training M.A. and M.Sc. students to carry on independent investigations.

DAS GUPTA, HEM CHANDRA—*contd.*—DAS GUPTA, SURENDRANATH

I think that a working knowledge of French and German is necessary, but the University has no provision by which an acquisition of these languages is obligatory. This defect should also be removed.

DAS GUPTA, SURENDRANATH.

Whatever may be the divergences of view with regard to the exact nature of the philosophical and epistemological processes involved in education, all educationists are generally agreed about the main idea of true education. Thus, John Stuart Mill in his restorial address of 1867 says that education "includes whatever we do for ourselves, and whatever is done for us by others, for the express purpose of bringing us nearer to the perfection of our nature; in its largest acceptation it comprehends even the indirect effects produced on character, and on the human faculties, by things of which the direct purposes are different; by laws, by forms of Government, by the industrial arts, by modes of social life; nay, even by physical facts not dependent on human will; by climate, soil, and local position" or rather in a more restricted form as "the culture which each generation purposely gives to those who are to be its successors, in order to qualify them for at least keeping up, and, if possible, raising, the level of the improvement which has been attained." Froebel, a loyal disciple of Pestalozzi, says :—"so the man must be viewed not as already become perfect, not as fixed and stationary, but as constant yet always progressively developing—always advancing from one stage of development to another." The idea of development involves the idea of organism and we frequently find it compared to that of a tree; thus Pestalozzi describes it :—"Man is similar to a tree." The whole tree is an uninterrupted chain of organic parts, the plan of which existed in its seed and roots.

But the development of man differs from the development of the tree in the garden in that there is a purpose not only in the mind of the teacher acting as the gardener, but also of the man who develops. The difference in the teacher and the taught lies mainly in this, that the former has a clearer view of it than the latter and he is in a position to direct the steps of the learner to the attainment of such a development. Man is similar to a tree, as his education is essentially a phenomenon of life, by which we mean that he will have such system in him that he will be able to assimilate his acquisitions with a view to their further growth or enrichment in accordance with the special needs of his nature and the particular function of society that he has to perform. If the information which a person acquires does not grow into such a system of active efficiency within him that he can develop his future experiences and advance them by shedding new lights, in accordance with his own system of education, they are bound to hang upon his memory as a burden which is got rid of sooner or later according to the superior or inferior memory that the person possesses. But, here again, the difference between a plant organism and man becomes evident inasmuch as the plant has only a blind organic power by which it assimilates the food that is offered to it in the ground in which it grows, whereas man is throughout characterised by a conscious and insatiable enquiry for the growth of the life of knowledge in him.

The main points to be noted in connection with the test of a good training or education according to us may be summarised as follows :—

(*a*) There will be a development of the intellectual capacities from stage to stage.
(*b*) Along with such a development the student should gradually become conscious of the purpose of his education.
(*c*) A spirit of enquiry should gradually appear in the student in a more and more marked way as an external sign of the growth of a life of knowledge.
(*d*) There should gradually appear as a demonstration of the growth of the intellectual life on its positive side the gradual growth of a power of construction over the experiences or materials which he acquires.
(*e*) The growth of a power of control and steadiness of will to overcome all obstacles, physical or moral, which may stand in the way or become dangerous to the growth of such a life of knowledge. In the case of the shell to protect it from the attacks of nature.

Taking the meaning of 'highest training' from our point of view I am of opinion that the present system of training often hampers, rather than helps, the growth of the intellect of young Indians of ability. Thus, if we take the earlier part of his career into our consideration, we may describe the impediments at school in the following way :—

(*a*) The best intellect is chained down with the lowest; so that most of his time is spent unprofitably; and as a result of this the instruction imparted in the class becomes dull and uninteresting; there comes a deadness over him which retards the zest of his spirit of enquiry.

(*b*) The manner in which instruction is imparted, and the emphasis that is put upon examinations, impresses upon him the idea that success in examinations is the *summum bonum* of his life. Guardians of boys also do their best to goad them to concentrate all their energies on examinations. As a result of this the spirit of enquiry and love of knowledge find little scope for their development, and are substituted by cramming for examinations.

(*c*) The subjects of study are also not sufficient to keep their minds engaged in an intelligent way. The free flow of their intellect, without finding any outlet, naturally becomes stagnant and turbid.

(*d*) There is no encouragement generally for widening their knowledge. No access to libraries.

DATTA, BIBHUTIBHUSON.

Before a verdict could be passed, rightly and honestly, on a training, whether it is the highest or not, a standard must be set up at the outset with which it will be compared. As the Indian universities are purely Western institutions transplanted to Eastern soil we must look back to the West in search of such a standard. Hence, I shall compare the Calcutta University with the best universities of the United Kingdom, *viz.*, Cambridge, London, and Edinburgh. The comparison will be instituted under the following two heads :—

(*a*) the standard required for the degrees; and

(*b*) the results of the training.

(*a*) Speaking of my own special subject, *viz.*, mathematics, and of the two allied subjects, *viz.*, physics and chemistry, which interest me much, a careful perusal of the courses of the Calcutta University and of the above-mentioned universities will show that Calcutta promises to give as high a training as the other universities.

(*b*) The success of a training is better determined by its results; the fuller the opportunity afforded by the system the more complete will be the training, and the more efficient the training the abler these trained men are bound to prove in life. The new regulations came into force in 1909. In this short period of eight years there is clearly discernible amongst the young Calcutta graduates a growing eagerness for original investigations and a higher pursuit of knowledge. The learned societies of Europe and America have already recognised the new School of Chemistry in Calcutta. Every year we find two or three candidates for the M. A. or M. Sc. degree in chemistry submitting a piece of original research work in lieu of a portion of the written examination. Two Calcutta researchers in chemistry have obtained from foreign societies grants of money for the continuation of their work. A higher pursuit is a sort of expedition; and, as such, it requires, besides its sinews in money and accessories, an able general to train up and to lead on the raw, young recruits. He should be abler and stronger than the general of the fatal war, for his is an expedition not to conquer the known, but the vast unknown lying before us from eternity, unto which have marched all sages of all times, and to explore whose secret they have voluntarily shed every drop of their sacred blood. The chemistry recruits

DATTA, BIBHUTIBHUSON—*contd.*—DE, SATISCHANDRA—DE, SUSHIL KUMAR

found their leader in Professor P. C. Roy from the beginning of the new regulations, so went ahead. The recruits in mathematics and physics were very few in number before 1914 when, thanks to the princely donations of our two illustrious countrymen, Sir Rashbehary Ghosh and the late Sir Taraknath Palit, the former got a fine leader in Professor Ganesh Prasad. The research in physics is also progressing satisfactorily under the guidance of Mr. C. V. Raman, Sir Taraknath Palit Professor of Physics. A training which creates in the minds of its disciples such an eagerness for the pursuit of higher knowledge, and which, with careful nursing, produces such satisfactory results, cannot but be called higher.

During recent years some of the graduates of this University have distinguished themselves in some of the universities of the United Kingdom within a very short stay there. This may also be looked upon as a further proof of the high training imparted by the Calcutta University.

The University has provided no society to promote and to publish researches in connection with the subjects taught; it has not established fellowships, nor does it make grants of money for the promotion of higher culture. In this respect the Calcutta system is inferior to the systems of Western universities. A small beginning has lately been made by private endowments, but that is not sufficient; much more should be done, and similar avenues should be opened for other subjects as well.

The greatest defect of the existing system is its complete divorce from ethical culture; it is, in fact, a *godless education*, having regard for the secular, but none for the students' spiritual, elevation.

DE, SATISCHANDRA.

No; moral education is almost ignored, and cramming is encouraged to some extent.

DE, SUSHIL KUMAR.

This question is of too general a character and includes in its scope a variety of topics which are covered, more or less, by those that follow. Limiting its scope, however, and taking it generally, we have, in the first place, to consider what "highest training" implies. The greatest divergence of opinion on this point is quite possible: but, roughly, we may take the highest university training to consist of:—

(*a*) General acquisition of knowledge.
(*b*) Stimulation of intellectual curiosity leading to original thinking, research work, etc.
(*c*) Creation of an interest in public life.

Some may include in this enumeration spiritual and moral training and it has often been pointed out that the University of Calcutta completely ignores this side of the question. No doubt, one of the foremost objects of education is the formation of character, and the importance of moral and spiritual training in any educational system can never be exaggerated. But, in my opinion, it is better, for all practical purposes, to approach this problem from an entirely academic and secular point of view and to regard spiritual and moral training as merely secondary or incidental objects of university teaching. It leaves us open indeed to the blunt reproach that our system of education, scholastic and hide-bound, is godless and non-moral, if not exactly immoral. The fault, however, lies not so much in the system, as in the situation. The necessity of absolute religious neutrality leaves systematic religious instruction out of the question: and it is not always safe to deduce moral lessons from the differing religious systems obtaining in the country. Some amount of moral training, no doubt, is imparted by the personal influence of individual teachers and it is always desirable to have as teachers, men not only of great

DE, SUSHIL KUMAR—*contd.*

intellectual ability, but also of sterling character. But this personal element in any system of university organisation must, of necessity, be comparatively slight.

Leaving aside this controversial question let us now consider if the objects of university education, as set forth above, are fulfilled by the existing system.

(*a*) As to the general acquisition of knowledge I do believe that, under existing conditions, a young Indian of ability certainly gets pretty full opportunity in this respect. The question indirectly implies—what value is to be attached to the higher degrees (M. A. or M. Sc.) awarded by the University? In my opinion, our M. A. or M. Sc. degrees are certainly not inferior to similar degrees awarded by other universities. There is, no doubt, much room for improvement in this respect. Under the existing system, for instance, a young Indian works under the great disadvantage of acquiring knowledge through the medium of an alien tongue. All his studies are conducted in a foreign language and he begins the grammatical use of that language at a comparatively late period in life. The very attempt at acquiring a good command over the English language—by no means the easiest of all European languages—extends over a long period of years which can be profitably utilised in other directions if the medium of teaching is his mother tongue. Too exclusive attention, again, is paid to the acquiring of only one of the European languages (*viz.*, English); while to the student of the higher branches of learning (whether it be arts or science) a general knowledge of at least French and German is almost indispensable. Except perhaps in the case of those who want to specialise in English literature (but even in this case I personally make no exception), students who want to proceed to higher degree examinations, or to do research work, must be given greater opportunities of learning French and German, together with English.

But, in spite of these, and other, difficulties and disadvantages, I believe that a student admitted to the higher M. A. or M. Sc. degrees of the Calcutta University is certainly not inferior, either in knowledge or capacity, to a student admitted to similar degrees in other universities. Indian university degrees have been, unfortunately, much sneered at; but it is undoubtedly clear to everyone who has any intimate knowledge of university affairs that the manner in which the examination is now conducted, and the standard of efficiency required, certainly ensure a high degree of ability and industry in any student, especially in those who are placed in class I; and I need not quote the high testimony, given in no indulgent, but often in a critical, spirit, by a series of educationists, from Sir Henry Maine in 1867 down to Sir Asutosh Mukherjee in recent years, testifying to the high ability and capacity of our advanced students.

Moreover, it is a matter for congratulation that, with the centralisation of higher teaching in the University, more systematic and elaborate arrangements are being made for post-graduate studies. The council of post-graduate teaching, which has taken the matter seriously in hand, is not only reconstructing the old stereotyped curricula and courses of study, and making better arrangements of teaching by appointing the best men available as lecturers, but they are also making, after the model of modern European and American universities, some momentous and radical changes which indicate considerable improvement upon the old order of things. I may be allowed to cite, in this connection, one concrete instance. A committee of the senate has recently recommended that B. A. honours and pass courses should be distinctly separated, and that honours men should possess a deeper and wider knowledge of the subject than what is expected from pass candidates. In pursuance of this resolution the council of post-graduate teaching has recommended that the courses for B. A. honours and the M. A. be reconstituted in such a manner that the former may be regarded, in a real sense, as a course preparatory to the latter. It cannot be disputed that the ultimate effect of this change will be not only to secure thoroughness of training, and

DE, SUSHIL KUMAR—*contd.*

reduce the pressure of examination on the student, but, at the same time, to reduce overcrowding in the M. A. classes; for one of the practical results of this scheme will be that those who do not seriously take up honours in the B. A. and have systematic preliminary training will find the M. A. examination almost impracticable. With the concentration of post-graduate teaching in an extremely limited number of centres where liberal and enlightened efforts are thus being vigorously made for a higher standard of instruction, and with the cordial co-operation among teachers of ability and experience, so imperatively needed, there is every reason to expect that here, at least, young Indians of ability will find fuller opportunities of obtaining the highest training.

(*b*) Research work.—Although better facilities are afforded for training for higher degree examinations facilities for research work are as yet very inadequate for the increasing needs of the more ambitious of Indian students. Leaving aside the utterances of alarmist prophets who look down upon everything Indian it will not be seriously disputed, I think, that there is no lack of talent in this respect among the advanced students, as is indeed indicated conclusively by the quality and amount of work accomplished by them in recent years. One need only refer to the various theses which have been submitted, since the new regulations came into effect, for the doctorate degrees, for the Griffith Memorial Prize, for the Premchand Roychand Studentship, for the Jubilee Research Prize, and for other similar scholarships. For these research scholarships and examinations every year not only is there no lack of candidates, but there are so many papers of great excellence in diverse subjects that the selection is sometimes a matter of great nicety and discrimination: and, as is indicated by the reports of examiners, the standard of excellence reached in some of these would do credit to students engaged in research in any university. It is, therefore, not too much to expect that the work of our advanced students should receive more encouragement which it so richly deserves.

For this purpose, in the first place, more funds should be forthcoming to enable the University to direct and co-ordinate research and found a larger number of studentships and scholarships. At present, apart from the doctorate degrees, there is, for the promotion of research, only a very limited number of scholarships for arts, science, or law. For arts and science there are three general research scholarships, *viz.*, the Premchand Roychand Studentship, the Jubilee Research Prize, and the Griffith Memorial Prize; these, again, are divided, or given alternately, for arts and science subjects every year. For law there are two, *viz.*, the Onathnauth Deb Prize and the Jogendra Chandra Ghosh Research Prize; for medicine two, the Coates Memorial Prize and the Maharaja of Darbhanga Scholarship; for astronomy the Maharaja Manindra Chandra Nandi Research Fund. These are practically all the research scholarships and prizes available for the different subjects; and these are obviously inadequate to meet the healthy and increasing tendency towards original work. Some of these endowments, no doubt, indicate the interest taken in university education by men of culture in this country; but private munificence in a country of wealthy zemindars, merchants, and professional men like Bengal ought certainly to have been more considerable in the course of more than fifty years' history of university education. In the department of science, however, a systematic beginning in this direction has been made by the large-hearted and magnificent gifts of Sir Taraknath Palit and Sir Rashbehary Ghosh; but the department of arts still stands in need of such princely benefactors. Much, for example, yet remains to be done in the way of equipping libraries, museums, and other indispensable means of research work which, if they are to be better organised than they are at present, will require a large outlay of money at the outset and considerable recurring expenditure every year. Large funds, therefore, derived both from private benevolence and generous grants-in-aid

DE, SUSHIL KUMAR—*contd.*

by the State, ought to be placed at the disposal of the University for the purpose of making research work productive of fruitful results.

Besides money we require more men of first-rate ability not only to stimulate the spirit of research, but also to direct and guide it. For this purpose, the University has been following two different methods. In the first place, distinguished Western scholars have been invited from time to time to deliver courses of lectures in their own special departments of study. The names of Vinogradoff, Oldenberg, Pischel, Jacobi, Forsyth, and others who have been thus invited will sufficiently indicate not only the quality of the lectures delivered, but also the interest they are bound to create in the modern scientific methods of scholarship. This scheme, started at the instance of Sir Asutosh Mukherjee, has proved immensely beneficial not only in stimulating the spirit of earnest work, but also in bringing our advanced students and professors in healthy contact with the best minds of other universities. In recent years, owing to war and other reasons, these courses have been discontinued; but, if funds permit, and with better opportunities prevailing, more extensive arrangements ought to be made in this direction. In the next place, the creation of the several professorships in history, mathematics, philosophy, economics, and the sciences has for its direct object the promotion of post-graduate studies and research. The difficulty, however, of getting men of eminence and ability for these chairs had been a serious handicap towards realising this ultimate object; and the experience of past years has shown that, in some of these cases, either we were wrong in choosing the men, or the men were wrong in choosing their calling. It would seem, therefore, that, instead of the expensive, and as yet unproductive, system of recruiting men from distant lands—men without experience of conditions obtaining here—these professorships, in my opinion, ought to be confined, whenever possible, to men with Indian experience. This I urge not from any abstract patriotic motive, but from the practical consideration that men conversant with Indian conditions, and with the difficulties and disadvantages of Indian students, would very likely do better than a man who hailed from a foreign country to work among strangers. At the same time, it has been found difficult to persuade men of recognised standing in Europe to come abroad on the comparatively small inducement that we can offer to them. It has been felt, and felt rightly, that it would not do for us to depend perpetually upon Western universities to supply us with men. One of the most difficult problems of Indian university education is the finding of efficient teachers, and this problem can best be solved not by importation from abroad, but by training up our own men (as in Japan and elsewhere) to the required standard.

One of the recent developments of university policy, much criticised and misunderstood by unfriendly critics, has been in the direction of encouraging and training up brilliant young graduates of the University for the teaching profession. It is on these young men, properly guided and trained, that the future of university education in Bengal depends. The teaching profession hitherto has not attracted many young graduates of promise and ability into its fold; because the prospects it offered were not very cheering, nor was much dignity or respectability, in popular opinion, attached to the status of the professor. It is no wonder, therefore, that even after fifty years we have been able to turn out only a very limited number of great teachers of eminence and ability. In order to remedy this sad defect we must offer better prospects and better allurements to young men to become efficient teachers, and attach a higher status to the profession itself. It is true that those who embrace the comparatively quiet and uneventful life of a professor do so from a spirit of sacrificing material, to ideal, interests and from a love of the thing itself; yet it behoves us all the more to recognise this fact and make up for what loss they suffer in other directions in the best way that we can.

(*c*) Preparation for public life.—One of the foremost objects of university education ought to be to prepare men for the larger life beyond the school and college arena. Our University has never given any practical recognition to this except in an indirect way. University education would be too academic if its sole object were merely to turn out scholars, and not to train up citizens for the Empire. The recent scheme for affording facilities in commercial and industrial education will, in some measure, impart a practical character to university training; and ideas towards introducing something practical in our education are gradually becoming more and more definite. On the other hand, until more political privileges are extended, to us, it would not be possible to provide for any training in practical politics. It will, however, be admitted on all hands that, as expressed graciously by our chancellor in his speech at Agra, municipal progress and sound education go hand in hand and that a university ought to be moulded in accordance with national needs and aspirations.

In conclusion, I would like to point out that it is only recently that our University has been converted from an examining corporation into a teaching university. The question whether it is capable of imparting the highest training is rather premature and, unless some time is allowed to pass, the possibilities and difficulties of the present system of university training cannot be fully realised. As it is, it is now too early for us to be able to pronounce any definite and well-considered opinion on this subject. The University has only recently, for instance, taken upon itself the scheme of post-graduate studies. The experiment has begun, but it is difficult to foresee or gauge how fruitful or successful this attempt will prove. And, taking into account this fact, considerable allowance ought to be made before we constitute ourselves competent judges on this question.

Dey, Baroda Prosaud.

In my humble opinion, there is room for improvement in the existing system of university education, so far as the Calcutta University is concerned, which will afford to young Indians of ability full opportunity of obtaining the highest training, and the points mentioned in the second question are mainly the ways in which such improvements may be effected. Besides, technical and commercial education should be fostered under the ægis of the University. It must, however, be mentioned that during the last ten years or so there has been considerable improvement in the Calcutta University in its different phases. Post-graduate studies under able teachers have been provided for, and a science college has been started.

Dey, N. N.

The existing system of university education does not afford full opportunity to students to get the highest training, because:—

In the first place, there is want of co-ordination in the different courses of instruction —the elementary, the secondary, and the University—hence, students coming from schools are not well-fitted to take full advantage of the specialised training of the University.

In the second place, I believe that no Indian university will ever be able to attain the same level of efficiency as the Western universities unless the teaching be conducted in the mother tongue of the country in which the university is situated. The energy spent in acquiring a foreign tongue is immense,

Thirdly, I think that the present relation between the University and the constituent colleges is far from satisfactory. The colleges have had very little freedom in their own working, and hence the relation between teachers and students is not as intimate as it should be.

Lastly, the present system is not exactly suited to the economic conditions of a poor country.

The first and the third items have been fully dealt with in my answers to questions 8 and 5, respectively.

D'SOUZA, P. G.

No;- the chief reasons are:—

(*a*) At present a very high standard of knowledge of English is insisted upon before students can enter the University. This operates as a serious handicap, especially in the case of students who are not naturally inclined towards literary studies. Moreover, the study of a foreign language involves considerable strain on every student. In the Madras University only about 20 per cent. of the students that pass the school final stage is able to satisfy the test in English required for entrance to the University. It does not necessarily follow that the remainder are unfit for any kind of university education, though their knowledge of literary English may be deficient. In the case of students having an aptitude for mathematics and science a working knowledge of English is sufficient. If a larger number of Indians is to derive the benefits of university education it will be necessary to allow students to go up to the University with their own vernacular as the principal language and with a sufficient working knowledge of English to be able to understand science books written in English.

(*b*) The courses of study in Indian universities are modelled too much upon the courses in some of the older English universities and, in many cases, bear no relation to the needs or aptitude of Indian students and their subsequent business in life. Except by way of fitting them to a certain extent for employment in Government service university education has not much influence over the after-careers of students.

(*c*) The class of men usually selected as university professors at present, with rare exceptions, compares unfavourably with men holding similar positions in other countries. The entire system of recruitment seems to be fundamentally wrong. At present, officers of the Educational Service are all selected on the same principles, whether they are intended to be employed as inspectors of schools, or as headmasters of important secondary schools, or as professors of the University. The result is a dead level of mediocrity. It is impossible to induce, under such conditions, first-rate men to take up appointments as university professors and, even if we get such men, there is very little scope for individuality under the present system.

(*d*) As education spreads it becomes more and more difficult for Europeans to understand the needs of Indian pupils, grapple with new problems, and exercise a wholesome influence over young minds. It is, therefore, very necessary gradually to appoint more and more Indians of recognised ability who have gained distinction in outside universities to the higher posts under the University, but the differential treatment now accorded tends to keep out brilliant Indians from the Educational Service.

(*e*) There is a prevailing fallacy that educational efforts in India should be concentrated exclusively on the expansion of primary education, and that the development of an indigenous type of university education may wait. It is also said that university education should be self-supporting. The cost of university education, though it may be lower in India than in other advanced countries, is too high if the low earning power of the people is borne in mind. University education should be made less costly, and opportunities should not be denied to men of capacity to qualify themselves for positions as leaders by stinting expenditure on University education. University education, moreover, should not be so purely literary, and the courses should be framed so as to provide varied means of training in as many useful occupations as possible.

QUESTION 1.

DUNN, S. G.—DUNNICLIFF, HORACE B.

DUNN, S. G.

The young Indian of ability does not receive a good training at the school before he proceeds to the University and, therefore, he is unable to use, to their full extent, the facilities offered by the University. His intellectual power is, indeed, in many cases, actually weakened by the school routine. Assuming, however, that he passes from the school to the University with unimpaired mental vigour we may still assert that his development is checked at the University by his environment. He finds himself in a large class the members of which are, most of them, unfitted both by training and by temperament for the assimilation of teaching of the university type. They are not interested in learning for its own sake; they wish only to obtain a degree which may enable them to gain employment. Unconsciously he adopts the attitude of his associates; a moderate amount of work will secure him a degree; he does not see any advantage in deeper study. But, even if he remains unaffected by the environment, and does desire the highest training, he cannot get it, for the following reasons:—

(*a*) The classes are so large, the work of lecturing is so great, that the professors of his college cannot give enough time to tutorial work. These "professors" are, in fact, in the position of schoolmasters; they are obliged to adapt their teaching to the capacity, the very low capacity, of the average student, to the needs of the prescribed courses, and to the purposes of examination. Much of the time which they would desire to spend in research, or in work with selected students, is spent on organising athletics and the other activities of the college. Somebody, we may admit, must do these things, but it is not the business of "professors."

(*b*) The student is not free to attend any lectures he may choose; he is allotted to a particular class in a particular college; the whole resources of the University are not open to him. This is inevitable under the present system of affiliated colleges.

(*c*) The student is not encouraged to use a library. Existing college libraries are inadequate; they are used as waiting-rooms rather than as places of study; it is impossible for a serious student to read in them even if he can find the books which he needs. Briefly, the college is organised as a school, not as a university institution; there is no freedom of research, no intellectual environment; there is no encouragement of individual taste, and no stimulus to study.

DUNNICLIFF, HORACE B.

The existing system of university education is faulty in that students take up too great a variety of subjects after they have matriculated.

Up to the matriculation standard the training should be of a general nature with a view to developing the intellect and to giving a boy a reasonable fund of general information. For this reason, I would make elementary science compulsory in the matriculation. Many potential scientists are, undoubtedly, lost because they are not given a reasonable chance of studying the subject before they are in a position to judge for themselves what subjects are most suited to them. After passing the matriculation an undergraduate should be in a position to say whether science interests him or not. If he chooses to take science in the intermediate examination he should be obliged to take English and all science subjects. It should not be permissible to mix up, say, history or a language, with science. If it be urged that all Indians should have to study their own vernacular (and there is much to be said in favour of such a point of view) then let it be as a portion of the paper in English.

In the intermediate examination I suggest that three sciences be taken. Suitable combinations of subjects should be adopted. The subjects would include chemistry, physics, botany, zoology, geology, mineralogy, mathematics, physiology, anatomy,

hygiene, domestic science, commerce, etc. English is necessary because, if it were not a subject of examination, its study would be neglected altogether.

In the B.Sc. two correlated sciences would be taken (together with English), *e.g.*, chemistry and physics, physics and mathematics, botany and zoology, anatomy and physiology, and so on. Honours would be taken in one subject only. There should be "university lecturers" who would give courses of lectures in their subjects to students of all colleges for the honours B.Sc., and masters' degrees. This would preclude students from mofussil colleges from taking honours in a subject unless they transferred to a college in the University town. In certain cases, it might be possible to arrange for mofussil colleges to teach for honours, but the expense to the mofussil colleges would be out of all proportion to the advantages of having honours courses in their colleges. The same argument applies to the teaching for masters' degrees, especially in science subjects. There should be degrees for technology (*vide* my answer to question 7). I do not consider that training in commercial science is outside the province of a university. These classes should be instructed by university lecturers. The University should possess university buildings. At present, the colleges are too individual. This system of inter-collegiate and university lecturers would do much to blend the various colleges into a corporate body.

The University should provide "extension lectures" and night classes in such subjects as English, typewriting, book-keeping, etc., to help those who are poor or who are occupied in the day to acquire proficiency in some subject which will help to improve their condition in life.

Arrangements might also be made for well-known and successful teachers to lecture to their fellow-teachers on subjects in which they are specialists. At present, this is confined to the training of school teachers. I do not suggest regular courses of lectures, but the institution of such courses as may appear advantageous from time to time.

DUTT, BAMAPADA.

No; the existing system of education in the Calcutta University is not conducted on proper lines. The object of university education should be to afford genuine culture, thoroughness, and efficiency to graduates so that they may be well-equipped to pursue their activities in life to the best advantage to themselves and to their country. This could be attained only if the University does not merely test their efficiency by examinations, but watches over and guides their training from the beginning to the end with a view to the formation of character, and efficiency in the subjects of their studies. To live in a healthy and sound educational atmosphere under the personal guidance of professors and teachers of tried ability and character is of paramount importance for the purpose of attaining the desired thoroughness and efficiency indicated above. The Calcutta University should attempt to create such an atmosphere as early as possible and to enforce that every student of the University must, during the course of his studies, live in such an atmosphere. The University of Calcutta is at present to a great extent an examining university. It should be converted into a teaching and residential university.

DUTT, REBATI RAMAN.

The success of training is determined by its results; the more efficient the training the abler these trained men are bound to prove in life; the fuller the opportunity the training gives the higher and more complete will be the position of the trained man in life. Thus, there are two ways of judging this training:—

(i) From the point of view of efficiency.
(ii) From the point of view of opportunity.

(i) *Efficiency.* The University of Calcutta has been in existence for over fifty years, and has taken up the task of training us in arts, science, law, medicine, and

engineering. Now let us look at the great men of Bengal from amongst the alumni of this University and we shall find an eminent jurist like Sir Rashbehary Ghosh, eminent judges like Sir Asutosh Mukherjee, Sir Romesh Chandra Mitra, Sir Gooroo Dass Banerjee, eminent surgeons like Suresh Prasad Sarbadhikari and Kedar Nath Das, and an eminent philosopher like Brajendra Nath Seal.

But I am far from admitting that India lacks eminent men. Some of them are probably the pride of the British Empire. But may I ask why Indian universities have produced so many lawyers, judges, and doctors, and not scientists, engineers, and men of letters? The reason is not far to seek, for it is only in law that we can fully realise ourselves, attain the highest possible height of a judgeship in the highest court of judicature.

(ii) *Opportunity.* Outside the public services the University has not given us any training to make us self-respecting and self-sustaining in agriculture, industries, banking, commerce, journalism, book-editing, public life, and nation building. Thus, the University has given us no opportunities in these respects and, if we are eminent in any of these lines, we attain our eminence by dint of our own efforts and by a fortuity of circumstances. It is for this reason that we have got few successful men like Sir Ratan Tata and Sir Rajendra Mukerjee.

I have already said how I have considered the system deficient from the point of view of efficiency and opportunity. The University as a body did not realise its position to the full, its pre-eminence as the highest brain of the society, of the rulers and the ruled, to give us the highest and best in life, to make us self-respecting and self-reliant to the utmost. The University was bound to give us all the best in our little universe of life, to fit us for the highest offices in the State and the highest concerns abroad, and it can never submit to this limitation that thus far and no further shall thy alumni go. Indeed, no British university, however poor and recent in origin, could ever think of submitting to this limitation. Is not the Indian university then a part of the talented organisations of the Empire to make the Empire what it is? Had the Indian university fully realised this position it would not have sat quiet to see its alumni ever relegated to subordinate positions in the State. It would have asked itself why should its alumni ever be "hewers of wood and drawers of water" within its own home, why should it not stand on a par with the other universities of the Empire as regards equal opportunities and privileges for all? Had the Indian university fully realised its position with respect to the State it would have made the first move to see that the highest offices were within the reach of its students, and would have repeatedly prayed for simultaneous examinations in India. If the Indian university had fully realised its own worth it would have urged the employment of its own graduates in the Indian Educational Service amongst the professors in the colleges within its own control. I know these appointments are not for the University to make, but I wonder that the University never made any claim for these appointments. Apart from these bold claims, fancy such a brilliant institution as the Calcutta University, proud of some of the most eminent talent of the British Empire, submitting meekly to this humiliating rule that its first-class B. A.'s and M. A.'s are equivalent to the matriculates of the London University. The Indian university has ever timidly paid its respectful recognition to a foreign degree, be it attained in any of the yesterday universities of Great Britain.

Another defect is the isolation of the University from the currents of life. It was only in recent years that Indian administration found a place in the curriculum of the University, and even then the course is not very full. The University seminar has not contributed its thoughts upon the various problems of Indian life, caste and co-operative credit and banking, Indian industries and trade, public service and public expenditure, Imperial preference and tariff reform, munici-

palities, district boards and legislatures electorates and franchises. Eminent public men do not come and meet the younger generation as their teachers in the seminars and do not publish their lectures for the benefit of all. Contrast with this the unique spectacle that Professor Woodrow Wilson was drawn from a university chair to fill the chair of the President of the United States.

Another great defect of the Indian university is its forgetfulness of its local habitation. It is a university of the East, an Indian university, and as such it must explain Eastern culture and civilisation, Eastern ethics and philosophy, Indian poetry and Indian art, India's present and India's past. But let us ask ourselves if the University has served this purpose, how many of these Eastern works have found their place in the curriculum of the University, how much of the East this Eastern graduate can explain to a young enquirer from the West, how many of these Eastern works has the university translated for the enlightenment of the West. It is idle to expect that a Max Muller or Goldstucker would ever come and beat our drums. Our University has got to do it. Timidity, silent self-negation, is as much a vice as bold self-assertion.

DUTTA, PROMODE CHANDRA.

The existing system of university education does not afford full opportunity of obtaining the highest training, especially with regard to the moral and the physical side of the students' nature. The intellectual training is also deficient, because:—

(*a*) students have learnt to think too much of the examinations and because college authorities (both Government and private) generally judge of a professor's work by the number of his students passing the examination;

(*b*) Indian teachers who are really fit for carrying on research, and to carry it on are not encouraged by the provision of adequate facilities as regards library and laboratory; indeed, the complaint is general that they are sometimes discouraged by their official superiors;

(*c*) students see in Government colleges that learning and character do not mean higher status and they are, therefore, led to set small value upon them; they try to imitate the dress and habits of their European professors and are often tempted to go to England to get a sort of status in society and also a higher salary under Government;

(*d*) examinations are not conducted in the right spirit; and

(*e*) inefficient European and Indian professors are not shunted off to work for which they might be better fitted.

DUTTA, RABINDRA MOHAN.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training.

The existing system is deficient from this point of view in the following respects:—

(*a*) The most obvious defect of the existing system, which strikes even a very superficial observer, is the want of accommodation for students in colleges. Most of the Calcutta colleges shut their doors against students who do not pass the matriculation examination in the first division. The post-graduate classes of the University cannot accommodate all the students who are desirous of prosecuting their studies in any particular branch of knowledge after the B.A. or B.Sc. stage. A few facts and figures will make clear how crying is the need for more spacious accommodation. In the year 1917 no less than 50 students were refused admission to the fifth year class in English of the post-graduate arts college of the University, which has room only for 300 students; the fifth year classes of physics and chemistry had to refuse admission to a larger number of students than were actually taken in.

The Presidency College and the Scottish Churches College did not take in any students in their first year classes except those who had obtained a com-

DUTTA, RABINDRA MOHAN—*contd.*

paratively high position among the successful candidates in the last matriculation examination, who had passed in the first division. The result of such a state of things is that, in most cases, the students who are refused admission are compelled to take up less congenial courses of study, or to give up collegiate studies altogether—to prevent both of which should be one of the principal objects of university reform.

(*b*) Another defect of the existing system is that it does not equip the majority of its graduates to carry on any work for the advancement of learning after their college life. It gives us a training only in one of the European languages, namely English, which cannot claim the monopoly of all knowledge in any particular subject. We have to go to French or German almost inevitably to carry on any work of research of real value for the progress of knowledge. But, for this purpose, there are very poor facilities in the Calcutta University. Formerly, classes for the teaching of French and German were held by the Calcutta University, but the work done in these was not at all satisfactory. Now even these have been discontinued. The result is that most of those who are anxious to carry on any work for the advancement of knowledge are left to their own resources which, in this country, are very poor indeed.

(*c*) The third defect of the existing system of university education, which is worth noting in this connection, is its effect on the physique of the students. In order to be an M.A. or M.Sc. of our University a student has to spend eight years in a secondary school and six years in a college These fourteen years of academic life are spent in an atmosphere where physical culture is optional and more or less a matter of luxury, whereas intellectual culture is the thing of prime importance, and hence should be compulsory. The result is that the greater part of the students of this University pays very little attention to systematic physical exercises. As a consequence, we find that speedy physical deterioration takes place, and every new generation of students is physically much inferior to the preceding generation. More than 25 per cent. of the graduates of this University are short-sighted and about half of those who are above thirty are dyspeptics or diabetics or victims of some other chronic complaint of like nature. We cannot attribute these diseases to climatic or sanitary or economic conditions of the country for people living under the very same conditions, but away from schools and colleges, are, on an average, much better off in point of health than their brethren educated in schools and colleges. With the deterioration of physique the vitality of the educated classes is also shortened and weakened, and all the consequent evils follow as matters of course. Now what is all this due to ? The average graduate of this University begins his school career in the sixth or seventh year. From that age, till he is 22 or 23, his bones are ground in the mills of school or college routine at the rate of five hours per diem, and he has to spend almost an equal number of hours over his books at home in preparing the school or college lessons. At schools or colleges he is generally given the option of taking part in games of football, cricket, etc., which very often result in overexercise in our tropical climate. But the majority of students do not take part in these ; for they find that attention to these will be at the cost of their studies, that are necessary to get the University certificate. Physical exercise is looked upon as a thing of minor importance, and hence often neglected. Indulgence in English games like football, cricket, and hockey, even when they are adopted, is baneful in consequence. The country games that were suited to the climatic conditions, and the native methods of physical exercise which, under our local conditions were conducive to harmonious development of the body, are now thought out of date and unworthy of polite life. But all these evils could be remedied if physical culture were made compulsory in our schools and colleges and if the University, by appointing batches of touring committees of examiners, made physical fitness an essential condi-

tion precedent to the conferring of degrees. The varieties of physical exercise that would be made compulsory should be of the most harmless type, *e.g.*, *Dands* (raising and lowering the body and placing both the feet and hands on the ground) and *Baithaks* (*i.e.*, alternate sitting down and standing up erect) in different postures, but these should form a compulsory part of the school and college routine.

(*d*) Another defect of the existing system is that it does not keep us in touch with the realities of actual life. We are taught things in almost every branch of knowledge with which our concern ends with the close of our college career; and when we leave college we find that we are as ignorant of the world before us as if we had never attempted to understand it. This is one of the most serious drawbacks of the existing system of education. One concrete illustration will serve better to explain my position than any number of abstract general statements. Let us take the case of an average B.A. of our University who has passed the B.A. examination with English, philosophy, and politics as his subjects. He has been taught ethics but the social basis of the ethical systems of which he has read is so very different from that of his own country that he finds it necessary to forget the half-learnt truths of his books as soon as the examination is over. The institution of caste, the social forms of conduct, the dicta of prevailing public opinion as conditions of individual conduct are factors with which the average graduate of our University is not competent to deal because of his almost complete ignorance of them. He is familiarised with foreign standards of conduct, but he is a stranger to those of his own home. Hence, he becomes discontented and becomes an iconoclast in spirit.

Advocates of the existing system will say that good ideals ought to be imported from abroad in order to improve those of our own homes. This is, no doubt, true. But all improvement and all reform presuppose a knowledge of the thing to be reformed or improved. But what we are doing in our University is to shut out almost all knowledge of the things to be improved and to impart a knowledge of things which, under existing conditions, are impracticable in our country. This is surely deplorable. Education is a preparation for life; it is not essentially a preparation for reform.

What is true of this one branch of knowledge is also true of most other things that are taught in our colleges. Physics, chemistry, agriculture, and even medicine, are taught mainly from the Western standpoint. So, as soon as a student leaves college, he has very often to forget his books for the world with which he has got to deal does not require his knowledge. The ideal to be aimed at should be that the truths of science or art should be taught not merely as things necessary to pass university examinations, but as things that are of value in our actual life in the world before us. Primary books in schools should give less attention to descriptions of tea plantations and cotton plantations, which very few of our boys will have occasion to see, and more attention to paddy cultivation or jute cultivation, which are matters of everyday life. So also in colleges it is of much greater importance for our students to know what Manu or Bhisma says, or Srikishna in his Gita says, or the Muhammadan saints say about the standards of conduct, than to know what Socrates says, or Zeno says, or Epicurus says, or even Kant says about the very same things. The real education and development of a people lies in the path chalked out for it by its own history and traditions, *i.e.*, by its genius; an education which is based on an ignorance of one's own native conditions is always destined to be abortive in its consequences.

FORRESTER, Rev. J. C.

The courses are too elaborate, ambitious, and pretentious. The passman usually just gets through the course in the two years, with a superficial knowledge only of his course. I think the courses should be shortened and a more thorough knowledge required. The

essential of university training is accurate knowledge. The present courses of study produce superficiality and inaccuracy. This is my considered opinion with regard to mathematics; I believe it to be true of English; and I have heard similar opinions expressed by teachers of other subjects.

GANGULI, SURENDRA MOHAN.

The present system of education organised by the University of Calcutta does not in general afford to students of ability full opportunity of obtaining the highest training and culture. Most students care more for degrees than for training and culture. They pay fees and attend college classes only for the percentage of attendance. Teaching has degenerated into dictating notes suited to be answers for examination questions, culled mostly from bazaar notes and guides. The whole system has degenerated into a machine for holding examinations and conferring degrees. Recognition of merit depends entirely upon examination results, which again depend more upon cramming of notes than anything else. Previous to the Universities Act of 1904 the Calcutta University was purely an examining body, but steps are now being taken to convert it into a teaching university as far as practicable.

The chief defects may be summarised as follows:—

(*i*) *Course for the bachelor's degree.*

(*a*) Heavy courses of studies prescribed by the University for the different stages of the university career.—Students have to grapple with too many subjects without aiming at a thorough grasp of the subject-matter. The result is that they acquire a knowledge too shallow to be of any practical use. The studies for the graduate course should rather be intensive, than extensive.

(*b*) Multiplicity and rigour of examinations.—Students have to pass too many examinations before obtaining the bachelor's degree, and these examinations are often very stiff. Thus, an undue importance is attached to these examinations, which certainly serve as so many bars to the progress of real education. The intermediate examination is not at all necessary.

(*c*) Defective method of teaching in colleges.—Teaching in colleges should not consist in simply dictating notes and delivering lectures. Teachers and students alike should have free access to well-appointed libraries and laboratories, and freely mix with one another.

(*d*) External influences also stand in the way of real education.—The ordinary bazaar publisher, whose chief aim is to make money, often publishes notes, keys, etc., which contaminate the minds of students. The publication of these notes, etc., should be proscribed.

(*e*) Want of proper tutorial assistance to students.—Too much importance is laid on lecture work and too little on tutorial help to students, while the reverse should have been the case.

(*f*) Selection of text-books.—It happens at times that text-books prescribed by the University are not suitable. The University should be more careful in the selection of text-books. Teachers actually engaged in teaching a subject should be represented on the board of studies in the same.

(*ii*). *Course for the master's degree.*

The University of Calcutta provides for post-graduate teaching both in arts and science. Most of the defects in the scheme sanctioned by the Universities Act of 1904 have been removed by the passing of the recent Bill which came into force from June 1917. There still remain minor defects which must be removed before the scheme may be regarded as perfect.

The chief points which the University should take particular notice of are the following :—

(*a*) A substantial library grant should be made annually for the equipment of the University library which, chiefly because of the Hon'ble Sir Asutosh Mukherjee's great interest in it, is, at present, by far the best library in India. Definite steps should be taken to make it an ideal library.

(*b*) A well-equipped laboratory should be maintained by the University.

(*c*) Post-graduate teachers should have greater freedom for private studies in their own special subjects, and they should have sufficient leisure to carry on independent investigations.

(*d*) Specialists in different branches of subjects should be placed in charge of their respective departments.

(*e*) Increased facilities to students should be provided for research work by instituting scholarships, etc.

(*f*) Distinguished educationists of European universities should be invited to deliver lectures at the University.

GANGULI, SYAMACHARAN.

No; I do not. Great progress has indeed been made in recent years in the matter of providing opportunity of obtaining the highest training, and for this Bengal is greatly indebted to the princely benefactions of Sir Taraknath Palit and Sir Rash Behary Ghose, and to the mental breadth and high administrative ability of our late vice-chancellor, Sir Asutosh Mukherjee, a part of whose plan has been to get professors of high repute from Europe. We have now a number of professors carrying on original researches, in collaboration with their gifted pupils. Capping all our previously existing research organisations the Research Institute of our great scientist, Sir J. C. Bose, of world-wide fame, has just been established and the State has generously come to the help of this institute, which has also received large benefactions from wealthy and generous Indians. But, in comparison with university work in Germany, we have still much further progress to make.

GEDDES, PATRICK.

No; the existing system is not merely deficient; it is a wrong system. However, this may be mitigated by the individual teachers at their best. For the old and false psychology and pedagogy, now and increasingly discredited in all living schools, is still, and peculiarly, conserved in the universities. Witness, *e.g.*:—

(*a*) The essential insistence on passive memorising of lecture notes and text-books, in short on cram for the examinations.

(*b*) Mass instruction, without sufficient individual contact with teachers, and free questioning of them accordingly.

(*c*) Insistence on details, and examination too much on these, with insufficient general comprehension and appreciation of the subject.

(*d*) Deficiency of practical and original work.

(*e*) Individualistic distinctions, by examination results too much apart from the above considerations.

(*f*) Attainment of mere bread-winning employment, too much apart from true professional ambitions.

(*g*) Starvation of æsthetic, practical, social, and moral interests generally, inevitable on any diet of mere knowledge.

(*h*) Resultant college atmosphere too much exhaled from solitary drudgeries, and these in prevalent anxiety and fear—fear alike of approaching examinations and of future uselessness.

(*i*) Consequent scarcity of true academic life, that of vivid adolescence, inspired and guided by vital senescenis, all feeling at leisure and liberty, yet concentrating these towards active study and discussion, and through (thus clarified) social purpose towards more and more effective attainment and service.

GHOSA, PRATAPCANDRA.

To youths of ability full opportunity is afforded by the present system of university education.

GHOSH, BIMAL CHANDRA.

The existing system does not give full opportunity of obtaining the highest training, for:—

(*a*) There is very seldom any association with high class teachers *of character*
(*b*) Young men do not live much in an intellectual atmosphere.
(*c*) Trained teachers are very few—for the ablest men seek and enter other professions on account of the low salaries and inferior status of teachers and lecturers.
(*d*) There are too many examinations—without the necessary help in the way of teaching—and this results in candidates having recourse to dishonest means.
(*e*) All over the land students seem to exist for the colleges and the universities, and not these for the students.
(*f*) University education seems to be dominated by "official politics," and ideals of education and advancement of learning are made secondary to departmental politics.

GHOSH, Dr. JAJNESWAR.

There are certain defects in the existing system which prevent the training of the intellect from being thorough and stand in the way of the formation of those habits that mark out the scholar. They lead the under-graduate to abjure independent thinking and to shun the tedious mental effort that is implied in a critical study of the subjects which he offers for his examinations. Just when he has acquired a certain measure of familiarity with them the ordeal of the intermediate examination looms large before his mental vision, theoretic interest in what might have been his favourite studies disappears, and he naturally turns to what will pay. Reflection, freedom of thought, and the spirit of enquiry are discovered to be unavailing or, at any rate, not so effective as the power of committing to memory paraphrases, demonstrations, and conclusions; for his examination is a test of the amount of information that he has gleaned from a certain number of prescribed or recommended books. The teacher cannot remedy the evil, which degrades him as much as it does the student. His work is defined by the syllabus and has to be done with strict regard to the time at his disposal and the nature of the ordeal for which he prepares the students. He cannot ignore them with impunity, for with those whom he teaches success in the examination is the first and most important thing, and intellectual culture and the pursuit of truth for its own sake a bad second. Hence, an uneducational method obtains in the colleges which consists in supplying the student with ready-made solutions, and not in bringing out the latent powers of his mind and teaching him to see for himself. The evil is aggravated by the fact that the teacher has to lecture as a rule to large classes composed of students of widely different aptitudes. Unless he cares to forfeit the attention and confidence of his pupils (and it must be clear that he can gain nothing by losing them) he must try to present within a very limited time the maximum of information in an attractive form and style. He gives them, therefore, no leisure to

GHOSH, Dr. JAJNESWAR—*contd.*

think and he takes away the incentive to thought by explaining as lucidly as possible, and with a profusion of illustrations, the difficult portions of the book or the subject that he teaches. The learners discover as a consequence that the enquiry and effort needed for an intellectual mastery over their subjects are supererogatory, or even a sheer waste of precious time. Those who are apt among them pick up the teacher's tricks of speech and turns of expression and learn to manipulate them for their purposes in the examination. They give the examiner little that is their own. Borrowed ideas in a borrowed garb form the staple of their answers.

After the intermediate stage the student braces himself up for another, and a more severe, test of application and memory. The old method is renewed, for he has learnt to be at home in it. Besides, it answers his purpose better than anything else, because within the short space of two academic sessions, which means less than two years, he has to study a number of new and difficult books and make his acquaintance with unfamiliar and abstruse branches of learning. But, if I am not wrong, it is not the abstruseness of the subjects learnt, but the mode of learning them, the attitude of the mind towards the issues which they raise, and the problems which they solve that should distinguish the university student from the schoolboy. This right temper is, however, seldom in evidence. And the reconceiving of existing knowledge, the focussing of scattered rays of light, and the co-ordination of ideas derived from different branches of study are never attempted. His hands are full, he cannot stop to distinguish between the white light and the coloured, he stores his mind once more with paraphrases, analyses, demonstrations, opinions, and theories. He has trained and developed his memory at the expense of every other faculty, and he relies on it alone as a resource of sovereign potency against the ordeal. He crams, and the facility with which he devours subjects and sciences is equalled only by the facility with which he purges his mind of them as soon as the examination is over.

Conditions are better when he takes a post-graduate course. He comes into contact with professors who are men of first-rate ability and who enjoy ascertain degree of freedom in the matter of teaching because they are entrusted with the conduct of the examinations for which they prepare the students. He has access to a well-appointed library, and his mind is not altogether receptive when he is working in the seminars and laboratories. At the same time, he has the guidance of capable tutors at every stage. Above all, he is permitted to devote his undivided attention to a subject which he has learnt to like, and in which he has made some progress. The circumstances favour, therefore, honest work and independent investigation under the influence of intellectual curiosity. But old habits die hard, and it may be that he is never weaned from methods with which he has grown familiar and the utility of which he has learned by repeated success to appreciate.

To improve this state of things I would do away with the intermediate examination and admit matriculates to colleges after testing their fitness for a university course. Such a change would, in the first instance, ensure the homogeneity of the classes, which is an important condition of really good work. Secondly, it would give the teacher three years at least to lead his pupil, to adopt his own conception of his favourite subject, and to teach it to him carefully and thoroughly. The learner will also have the requisite time at his disposal, as well as a sufficient motive for systematic and sound progress. For while the ordeal of an external examination will not be constantly and painfully present in his mind for at least three years he will realise, at the same time, that the sifting-house examinations at the end of each term or session will find out whether he has conscientiously worked on the lines recommended by his teacher and up to the standard prescribed by him.

The change advocated above will involve a reduction of the syllabus, for, while the student offers three or four subjects for the examination for a degree, he is required to pass in five at the intermediate stage. Such a reduction seems desirable in the interests of thorough and systematic study. If, however, it is held that a broad intellectual culture is incompatible with the concentration of the student's attention on a limited number of subjects just after matriculation I would ask the college to which he belongs to teach him an additional branch of knowledge, preferably one of the more important physical sciences if he does not intend to offer science for his examination, and the histories of

England and India if he does. But the external examination need not include a test of the progress that he has made in it. His college should be permitted to find out what his acquirements are in this department of knowledge and its certificate should be considered sufficient. A wide syllabus of prescribed subjects for an external examination distracts the attention too much and leads to perfunctory work in each of them.

A certain organic unity should, moreover, be aimed at in the different courses of study which are allowed by the University. The student is not the best judge in this matter, and just after matriculation he is not in a position to discover that the line of demarcation between allied branches of learning is more or less provisional and arbitrary. Hence, the privilege of unfettered choice may be abused by him and may result in his failure to attain intellectual mastery over the subjects that he studies. A chemist who knows nothing of physics is an anomaly, and so also is a student of political philosophy who has never studied history. Instances can be easily multiplied of the way in which advanced work is hampered by permitting specialisation upon a very narrow groundwork of general knowledge. The university regulations have, to a certain extent, prescribed the study of cognate subjects and insisted on a certain measure of acquaintance with subsidiary branches of knowledge in certain cases. But more has to be done in this direction, and especially in the selection of text-books for the students of English literature and the oriental classics. It seems to me better that the student should have an intimate acquaintance with all the important works of two or three great men than that he should have a fragmentary knowledge of a dozen authors. They are to be his companions through life, his solace in hours of trouble and depression, and his joy and support in times of strenuous and sustained activity. It is desirable, therefore, that he should learn, while still at the University, to know, appreciate, and love them.

I cannot take exception to anything in the scheme of post-graduate studies which has been evolved by the University. But I would suggest that the professors and tutors should be servants of the University alone. The arrangement which permits a college professor to guide post-graduate studies at the University does not seem to be satisfactory as it implies divided attention and interest. Besides, post-graduate teaching is such an engrossing task and is, or ought to be, so different in character from the training of under-graduates that a separate set of men is required for it.

I consider it eminently desirable that all post-graduate students should reside in hostels maintained for them by the University. In a great city like Calcutta the disturbing influences are many, and the conditions of life are not always healthy and favourable to intellectual activity. Besides, the influence of home, though it may be adequate for the formation of character in the case of boys, is not quite enough in the case of adults who are about to enter the world and who are fitted by their education and attainments to be important members of society. Corporate life has certain lessons to teach, and they are best learnt in the plastic period of youth. The student who becomes an isolated unit as soon as lectures are over never realises fully the need of discipline and the importance of self-sacrifice and self-control. He misses also that stimulus to the intellect which comes to the student in residence because he recognises at all hours a unity of purpose and effort in himself and his fellow-students. And, lastly, he loses the inestimable benefit of living with his professors, and being inspired and improved by the influence of their personality, which is not so apparent in the more or less artificial atmosphere of the lecture-room. It is true that very few of them would care to lead the life that is theirs. Still, whatever their place and work in life may be, they will be the better for having lived for some time with men whom prospects of material and social improvement could not turn away from the pursuit of knowledge and the worship of truth.

GHOSH, JNANCHANDRA.

The existing system of university education does not afford to young students of ability full opportunity of obtaining the highest training. The average student and the best student are not differentiated for purposes of instruction. Such differentiation should be made from the B. A. honours stage and upwards. There should also be arrangements for assisting research students in their work.

GHOSH, Rai Bahadur NISI KANTA—GILCHRIST, R. N.

GHOSH, Rai Bahadur NISI KANTA.

The existing system of education of the Calcutta University does not afford the fullest opportunity to Indian students of ability for attaining the highest culture in educational life for the following reasons:—

(*a*) Because the subjects taught in the matriculation classes are not perfect, but defective, in many respects. Study of English history is altogether omitted. Study of geography and history is not made compulsory.

In arts also the study of Indian history is altogether omitted and the study of other histories is made optional.

Elementary courses of science, such as physics or physical geography, are not prescribed in the matriculation examination.

Studies of the above subjects from the very beginning of educational life are necessary for attainment of intellectual culture.

(*b*) The numbers of students taught in a class or a section is too many and it is not possible for a lecturer or professor to pay particular care or attention to every student. Besides, they pay more attention to finish the courses rather than to inquire whether the students have learnt and assimilated what they have been taught.

(*c*) There is no adequate number of veteran educationists, nor proper equipment in colleges for post-graduate studies or for research. Pecuniary considerations usually forbid the maintenance of an adequate number of staff and equipment for such post-graduate education. Professors employed in post-graduate teaching are often engaged in teaching undergraduates.

(*d*) The object of university education nowadays is mainly to make a livelihood. None is educated for the mere sake of education itself, *i.e.*, for the attainment of learning, acquisition of knowledge, and the highest culture in life. Passing examinations is now the only motive.

(*e*) Egoistic consideration predominates in all grades of university education, rather than the altruistic. The main object of education seems to be the benefit of oneself and his family, but not so much of society. The element of communal interest in university education is almost wanting. Sometimes distinguished scholars and men of the highest attainment are found not to render any benefit to society.

(*f*) The present university education trains certain men for certain professions only. An educational degree is considered a passport for entering a profession, or an office, or other employment.

(*g*) The present system does not afford facilities for agricultural, industrial, and commercial education.

GILCHRIST, R. N.

The present system does not afford to young Indians of ability full opportunity of obtaining the highest training. In practically every respect the system is deficient. As an enumeration or description of the weaknesses of the system would lead me to interminable lengths I merely give what I consider to be the chief defects.

The young Indian of ability does not receive proper training in schools. This is especially true of the medium of instruction—English. I do not exaggerate when I say that 95 per cent of the students who pass into the University by the matriculation test is not able to follow even simple lectures in English. The same holds of students at both the degree and mastership stages, with the percentage only slightly reduced. Obviously no progress in university education is possible till the condition of progress is established, and that condition is simply a knowledge of the language in which the university subjects are taught. If it is unfair to compare local students with Western students when this fundamental element of difference exists, it is, it seems to me, as unreasonable to establish universities with Western

GILCHRIST, R. N.—*contd.*

completeness till the students are able to understand the language through which they are taught. Many of the enormities and makeshifts of the present situation are due to this fatal and fundamental ignorance. The University itself, as well as its students, has become mongrelised by the lack of a thorough-going policy on this subject. The medium of instruction should be either the local vernaculars or the English language, properly taught and understood. Progress apart from the settlement of this question —the *fons et origo* of our troubles—is impossible, and the University reconstituted in itself, or broken up into new universities to a greater or lesser extent, according to the organisation, will be an accelerated repetition of what has taken place in the last fifty years.

The improvement of the teaching of English is, therefore, of the most urgent importance, and for that improvement better schools and teachers are necessary. In other words, reform in secondary and primary education is the prerequisite of reform in university education. Such reform must necessarily be a process lasting over a considerable period of years and, in the meantime, the reorganisation of the University—such, at least, is my opinion—must make room for a period of transition in which the bad present will gradually merge into a good future. Without concentration on the schools by Government, private agencies, and the University itself I see no way out of the present *impasse* or, at the best, from the transition period. The University must play its part by insistence on good entrance qualifications, otherwise, the schools will work to the minimum standard necessary, a minimum which, at present, is an irreducible minimum of inefficiency.

This ignorance of the medium of instruction has by its ramifications and results made the University a less efficient centre of instruction than an English secondary school. One of the most patent and poisonous and, at the same time, inevitable results of it is "cramming." This, in its various forms and with its various accompaniments, is an evil rampant among students. Weakness in English is its main, though not its only, cause. Starting in the schools, where the boys memorise fifty or a hundred essays in an imperfectly assimilated foreign language for the matriculation, it permeats every nook and cranny of university work. College teachers pander to it, instead of suppressing it, for in a scheme of competitive colleges passing power is the greatest asset in both teachers and colleges. Where the income of both teachers and colleges depends on the ability to pass large numbers of students methods of teaching, or the social (distinct from the University) results, are not first considerations. Accompanying the bad teaching is bad learning, fostered largely by the *bazaar* cram-book, the printing, editing, and writing of which are on a par with its heinous purpose. Both cramming and the *bazaar* cram-book inevitably result from ignorance of the language in which the examinations are conducted. The system of selection which results in, save in rare cases, a selection among memories. The best student, judged by examination results, is the best memoriser. Every examination in which I have taken part is proof positive of this statement. Individuality in treating questions is a very rare thing. The examiner is more a recorder of mistakes in memory than a judge of mental calibre in the proper sense.

The present organisation of the University leads to similar results. No credit is given to anything save examination results. College records are valuable only in so far as they admit a student to the examination gamble. College teaching, too, follows the line of least resistance and greatest returns. Hopelessly entangled in the net of college competition, the majority of teachers content themselves with the reading, summarising, or expounding of the prescribed books. A dead, and deadening, level of text-book works makes them experts in text-books and textual criticism, but by no means masters of their subjects. Students fail to appreciate any subject, or any individual treatment of a subject, which does not exactly fit into the set limits of the examination. There is one track, and on track only, that the average college teacher dare tread, and that is the narrow, well-trodden text-book track leading to the examination heaven.

How in the present organisation departure from the track is possible is difficult to see. In a university where many college teachers are badly paid, very incompetent, and where the area of the university is as large as it is, the independent teacher risks failure by the very fact of his independence. The shackles of the organis-

GILCHRIST, R. N.—*contd.*

ation fix him in a prison of prescribed courses and ' suggested ' books. If he teaches a subject for the B.A. he cannot examine in that subject; and too frequently the examiner is, by his qualifications, as well as by the examination rules, unable to leave the safe shelter of the prescribed book. The large-scale production of our University has led to standardised articles and, in my opinion, standardisation is the result of the organisation. Just as machine-made goods oust home industries—and home industries produce the most *pucca* articles—so a federal university like the Calcutta machine kills the individuality of colleges, teachers, and students. Less organisation, or rather smaller organisations and more individuality, are what we want and this, in my view, can be achieved best through unitary teaching universities.

More is said on this question in my answer to questions 5 and 9.

The organisation of studies, again, is deficient. The ordinary point of departure in a university is the degree stage, but in Calcutta there has been added a new stage, unlike any nominally similar stage I know of, called the " post-graduate " stage, qualifying for mastership degrees. These post-graduate classes are in no proper sense of the term post-graduate : they are post-graduate only because they come after the graduate stage. They imply no research or independent work; but a huge and expensive organisation has been built up to answer the demand for this " post-graduate " work. The type of the work may be gauged by the fact that, in the course of English language and literature, students have entered the " post-graduate " stage without having read a single play of Shakespeare! The demand for these mastership classes is a symptom of a rabid local disease—the consuming desire for Government service. Government service has clouded our local university horizon, and students try in every possible way to qualify for such service, by taking every possible advanced course the University offers. The idea has come to prevail—how, I am not aware —that the M.A. or the M.A., B.L. is a *sine qua non* for the provincial services. The University, to meet the demand, has built up the present organisation at great expense, with little university value, and M.A.'s are ground out with yearly regularity to file applications before district magistrates or other officials, the majority to fall back on any chance appointment for which their miscellaneous qualifications may have fitted (or rather unfitted) them. Government service and the Bar (in order of preference) are almost the invariable first choices of students as careers. School teaching is usually the refuge of the disappointed in the Bar, though it is a thousandfold more vitally productive.

The University, in my opinion, should never have encouraged the present M.A. courses. Their existence has reduced the graduate degrees to the status of a magnified matriculation and the longer the system lives the more stereotyped become its results. In this connection, as an alleviation, if not a total cure of evil, I urge strongly the institution of some equivalent to the Civil Service Commission in England, which will sever the standards of Government service from university standards. Once this is done there will be some possibility of organising post-graduate work in the real sense of the term. I also hold that the present M.A. courses should be absolutely recast—the subjects taught in the M.A. being incorporated in the B.A. honours examination. The examination standard in the M.A. is practically that of the B.A. honours : the scope of subjects is very much the same, with a considerable addition of " suggested " books. The examinations should be tests of ability to handle subjects, not of knowledge in text-books or power of memory. Personally, I am content to leave to the student himself the reading of dozens of books and hundreds of theories in his subjects, provided I as an examiner can satisfy myself that he can tell me the general principles of his subject and show me that he can handle his questions satisfactorily. In my opinion, the M.A. examinations at present tend to deteriorate, rather than improve, the students. Their main result is simply to make him memorise for two years more what he has already memorised for the graduate examination, *plus* a few more theories. The M.A. process is like the tapping of the date palm—the tapping kills.

The abolition of the present M.A. classes would, of course, destroy the organisation built up to foster them. This organisation shows, in my opinion, the weaknesses of the present system more patently than any other branch of the university administration and work. Only a few years ago the needs for the mastership courses were met by the Presidency College. This college by restricting its numbers was able to do

GILCHRIST, R. N.—*contd.*

good work: but the University by means of lecturers—many of whom were Presidency College teachers—undertook the provision of lectures for those whom the Presidency College could not admit. The numbers seeking the M.A. and M.Sc. degrees increased by leaps and bounds, the University, in the meantime, appointing paid lecturers. Every one, irrespective of his abilities, who paid his fees was admitted to these post-graduate classes, and in the University the old story was repeated, the story of the ruination of education in the colleges—the story of supply and demand, of a thousand students giving seven thousand rupees monthly. The University staff, built upon and paid by the students, increased and multiplied till, other reasons intervening, a committee made the recommendations on which the present mastership work is based. Everyone connected with that work welcomed the principle of active co-operation recommended, for everyone was disgusted with the continuous tug-of-war existing between colleges and the University. But what happened was not co-operation with the colleges, but a new kind of competition. In the new independent staff appointed by the University several resigned from colleges to accept the terms of the University! The co-operation could, in my opinion, only have been effective had the colleges been strengthened, instead of weakened.

In the opinions of most of those who have done the so-called "post-graduate" work students are completely unfitted for such work but, in order to make them good M.A.'s, colleges were weakened, the only agents who could fit students for M.A. work.

The result is now a hybrid organisation. In some colleges certain of the teachers are University post-graduate lecturers, others are not. The University staff itself has no college connection whatever, thus transgressing one of the fundamentals of a university as laid down by the London University Commission, and agreed to by most educationists. Not only so, but a study of the personnel of the University staff will show a large proportion of students with very recent degrees who certainly have never done any real post-graduate work themselves. These in a year or two become M.A. examiners while their own college teachers are not even M.A. teachers. The proper sphere for these men, I submit, is college teaching and, until we recognise that the best men are wanted in our colleges, we can never get away from the topsy-turvydom of the present situation.

While I was in the Presidency College several of my colleagues—and we were all junior officers—sat side by side on the M.A. board with examiners who had been their own students. The M.A. of yesterday in the present system decides who is to be the M.A. of to-day and to-morrow. One of the best students I had at the Presidency College once complained to me that some of the examiners knew less about their subjects than the students. His complaint was not unfounded. Under the present system I believe this abuse is not so marked though it still exists. It is impossible under such a system to do justice to any student, much less the student who is brighter than the ordinary run.

In my answer to another question, *viz.*, 6, I give my opinion on the reorganisation of courses so as to abolish the present "post-graduate" difficulty. Another abuse, which my solution will also abolish, is the present union of post-graduate and law classes. The very fact that post-graduate students (in the proper sense of the term) should have time to qualify as B.L.'s completes the present "post-graduate" farce. I have before now advocated the severance of mastership classes and law classes as testing the sincerity of the post-graduate work on the part of students, but my contention has been defeated by the argument of hardship, an argument which I appreciate in its effect on students, but which I strongly deprecate as undermining the whole system of our local education. The plan I propose, *viz.*, making the B.A. pass and honours the final point of departure from the University, will solve this, as well as the major difficulty.

The present organisation is also deficient in the material of teaching. Though there are several notable exceptions the colleges of Bengal are ill-equipped in staff, libraries, laboratories, and buildings. This deficiency is founded on two evils, financial unsoundness of the colleges, and general lack of appreciation on the part of many engaged in university work of a proper university standard.

The first of these—financial unsoundness—I have treated in my articles which have been printed in the *Calcutta Review*. Small fees lead to big numbers of students,

GILCHRIST, R. N.—*contd.*—GOSWAMI, BHAGABAT KUMAR, Sastri.

and a big total income to certain colleges. Educational efficiency far from being an aim in itself becomes subservient to the perverted end of money-making. Money-making leads to a minimum efficiency level, that minimum efficiency being determined largely by the supply and demand for the article. The laws of the University are obeyed, it is true, in the letter, not in the spirit, though I confess it is difficult to gauge the spirit of the law when the University itself actually forces the crowded halls of certain colleges to be more crowded.

The second of these—lack of appreciation of good university standards—I shall deal with in question 5 (ii) and (iii).

The highest training includes the methods of life, as well as the method of teaching and learning. I have treated this question in a report on Calcutta messes, written in 1914, the gist of which is contained in articles published in the *Calcutta Review*. The only remark I need make here is that these articles were written while I was at the Presidency College, and that since coming to the mofussil I am more than ever persuaded that future concentration of university institutions in Calcutta should be prohibited. I am quite aware that the non-existence of museums, libraries, etc., argues against mofussil universities, but, putting the type of life on the one hand and the financial implications of expansion on the other, I unhesitatingly and strongly urge the concentration of considerable force on selected mofussil colleges. It would be perfectly fatal, in my opinion, to concentrate all university work in Calcutta, fatal to the health, physique, brains, and morals of the students. At present there is a very marked tendency on the part of the Bengali parent to keep his sons in mofussil colleges where the type of life is healthier and the influences likely to bear on his son less dangerous. The political position of the country and the excitable temperament of the average Bengali young man are factors which, though one is temporary, are likely to be the basis of much opposition on the part of the Bengali parent to concentration in Calcutta. Only the lack of educational facilities makes the parent in the mofussil send his boy to Calcutta. The Calcutta colleges have a *kudos* which few of those in the mofussil have, but in the last few years some of the mofussil colleges have held their own with the Calcutta ones. What knowledge I have of the mofussil parent leads me to believe strongly that any attempt to concentrate in Calcutta at the expense of the mofussil will meet with opposition strong enough to prevent the proposal being carried into practice.

GOSWAMI, BHAGABAT KUMAR, Sastri.

The progressive system of the Calcutta University has kept pace with the changing conditions and requirements of the country in the matter of the 'highest training.' The encouragement of advanced and research work in connection with post-graduate studies under the guidance of qualified teachers, as now prevails, fully proves this. But the conditions are rapidly changing, and the system of yesterday is almost an anachronism to-day. Progressive development, with gradual expansions in new directions, will necessarily engage the attention of the authorities for a long time to come, in fact for all time. The need of the hour is better organisation, greater facilities, and fresh opportunities in new lines of advanced work. The greater part of the improvements and extensions of the immediate future, however, are to be adapted to the conditions in the country, other than strictly educational, which must be gradually brought into existence, to secure better recognition and wider employment of indigenous talents, and to open up new careers of usefulness for the educated. For instance, if it is possible to launch extensive schemes of industrial expansion in the country under trained hands, extensive industrial education must pave the way. So with agriculture, commerce, and everything else. If new fields for scientific agriculture can be opened on a large scale let there be agricultural degrees and the highest agricultural training. If the future conditions of the country will not somewhat automatically find employment for the well-trained agricultural graduates it is useless to turn out these "articles" and dump them in a market where there is no demand for them. If real encouragement can be given to Indian trade and commerce, by means which alone can assure success, such as a big programme of national shipbuilding, and a

GOSWAMI, BHAGABAT KUMAR, Sastri—*contd.*—GOSWAMI, Rai Sahib BIDHUBHUSAN—GOSWAMY, HARIDAS.

network of nationalised railways, extensive commercial training on the most approved methods is desirable and necessary. In fact, every step in the expansion of the present system must be guided by the prevailing conditions of the country and a very careful consideration of the problem 'how to serve the best interests of the country under those conditions.' So also with regard to 'improvements'. Costly reforms should be undertaken only if, and in those branches where, there is every reasonable prospect of utilising the best training received. For example, it is useless to undertake additional cost in bringing the mathematical branch quite up to date if the soundest mathematical scholars in future have to choose the legal profession, out of sheer necessity, for want of better prospects in any other lines, where their talents may be usefully employed.

To sum up, though the present system has served its turn, improvements and expansions are possible, and even urgently required, but only on lines and in directions in which the highest training received will be really useful to the community and the country. Extensive national schemes, managed, protected, or aided by the State, are necessary, and, to meet the cost, indirect conscription of hoarded wealth will have to be introduced gradually through co-operative banks or some such devices as will appeal to popular imagination.

GOSWAMI, Rai Sahib BIDHUBHUSAN.

No; the deficiency of the existing system seems to me to be due, firstly, to a misconception of the chief aim of education. University education is valued in Bengal not so much for its expanding and culturing the mental faculties and helping to develop the higher self of a man, as for its enabling him to get a degree which is a passport to earning his livelihood. Such an unworthy estimate of education undermines its soundness by degrading it to the level of an ordinary marketable commodity. Secondly, it is due to the want of a body of really capable teachers who, by their scholarship, force of character, and personality can create an academic atmosphere, and awaken an ardent thirst for, and love of, knowledge among their students.

GOSWAMY, HARIDAS.

No.

The supreme object of education is not bread-winning preparation (essential as that is) nor its instrument; not high technical skill (good as that is too); nor learning (necessary too), but the complete individual and social blossoming of the pupil, the flowering of a human being in holiness, truth, and beauty, in health of body, and strength of character, with a passion for service, and skill to serve with that especial genius which God has given to each—a citizen worthy of his regional home and university, his native country and humanity—a true world-citizen.

Considered from this point of view the education that is imparted in the University is deficient in the following respects:—

(*a*) It gives a narrow, a very narrow, outlook to its alumni, the majority of whom regard bread and butter as the dominating aim of their education.

(*b*) It fails to stimulate any healthy "intellectual curiosity" in the majority, to develop a power of initiative, when thrown on their own resources, of accurate observation and independent thinking, and of applying the knowledge gained. Hence, this education, in most cases, proves barren of results. Now and again a great man has arisen from the ranks, but only by dint of exceptionally strong personal character, and in face of great difficulties, or else by dint of what seems like accidental aid.

(*c*) The preparatory training that is obtained is not helpful for life, for life as a whole in all its aspects, for the whole range of life's activities, individual and social; nor is it so even for livelihood.

This training is divorced from life as having no contact with life's activities. Culture was until very recently considered too much from the literary aspect. A many-sided interest in the greater concerns of existence, an all-round culture, is not the result. Even in the matter of earning a living

most of the University men appear quite helpless. Most of these live on miserable pittances.

(*d*) Education is not based on the national culture—the spiritual inheritance of an Indian child. Boys are not educated to become *young Indians.*

(*e*) There is no corporate life in the University. Students remain throughout mere intellectual acquaintances. They have little more than formal business relations with professors and lecturers.

(*f*) Education ends with the University. What Spencer wrote half a century ago is still true of our education:—"Examinations being once passed, books are laid aside; the greater part of what has been acquired drops out of recollection; what remains is mostly inert, the art of applying knowledge not having been cultivated."

GRAY, Dr. J. HENRY.

I do not consider that the existing system affords full opportunity of obtaining the highest training.

I judge that no system gives such opportunities which does not offer, if not require, courses in health education (personal or community) and training. A knowledge of the processes of human life—their personal and civic application—I deem to be essential for the best citizenship, and, as these are not included, I judge the existing system to be deficient.

GRIFFITH, W. E.

Many people in Bengal express the opinion that the average graduate of the Calcutta University does not possess the qualifications which a university career should give him. I believe that this is true. There may be many reasons for this state of affairs. I wish to consider only one of them, *viz.*, the paucity of trained teachers in schools which prepare students for the matriculation examination.

I would at once say that the majority of the teachers with whom I have come in contact are earnest and wish to do good work. If, however, they have had no training for their profession they generally lack the ideas and methods which are essential to real success.

Western Bengal is composed of two divisions, *viz.*, the Presidency and the Burdwan. The Presidency division is somewhat the larger of the two. I will deal only with the Burdwan division.

There are three grades of schools in Bengal, *viz.*, high schools, middle schools, and primary schools. In the Burdwan division there are 136 high schools, 400 middle schools, and 7,600 primary schools. Most of the high schools also include middle and primary sections. It is from the high schools that candidates sit for the matriculation examination of the Calcutta University.

The average high school staff consists of ten teachers; of these, two at least must possess the B.A. degree and two at least the F.A. certificate. All such teachers are eligible for admission into a secondary training college. In the Burdwan division there are about 540 such teachers. In addition to them each of the 400 middle schools must possess at least one teacher who has passed the F.A. examination. Such teachers are also eligible for admission to the secondary training college.

There is one secondary training college for Western Bengal, *viz.*, the David Hare Training College in Calcutta. It was opened in 1908 and it occupies five rooms on the upper floor of the Albert Collegiate Buildings. Since it was opened it has trained 215 teachers; and of these 20 are at present in the high schools of the Burdwan division. I would add that 39 others are included in the inspecting staff of the division.

What I wish to point out is that of 1,000 graduates and undergraduates who are either inspectors or teachers in the Burdwan division 59 have received a training for their profession.

I think that the David Hare Training College is working on right lines—as far as it is able to do so. The members of the staff lecture on the principles and methods

of teaching; demonstration lessons are given; and the students-in-training get plenty of practice in teaching under expert supervision. I believe, too, that the students leave the college with higher ideals, a greater sense of responsibility, and a wider knowledge of principles and methods of teaching than when they enter it.

All this is helpful; but progress is very slow because the number of trained teachers is so small. The majority of candidates for the matriculation examination have been taught by untrained teachers, and often their intellectual and general training is of a very inferior character. They pass the matriculation examination and start their university course with a handicap—they are not sufficiently advanced to get the real benefit of the course.

I suggest that the paucity of trained teachers in secondary schools is one reason for the expressed dissatisfaction with the attainments and qualifications of the Calcutta University graduate.

If, however, the question of increasing the number of trained secondary teachers is to be considered I think that the numbers of trained teachers for the middle and primary schools should be considered also. Many of the present graduates of the Calcutta University began their education in these lower schools; and by far the larger number of the teachers of these schools is untrained. At present, one middle training school (called a first-grade training school) and 32 primary training schools (called guru training schools) exist in the Burdwan division. The first-grade training school has a three-years' course and sends out 25 trained teachers each year. Each of the guru training schools has a two-years' course and sends out 8 trained gurus each year.

If an extension of the system for the training of teachers is to be considered, the following suggestions may be helpful. In my opinion, they apply especially to Bengal:—

(*a*) Each institution should be of such a size that the staff could make its influence felt by every student. It would be better to have a large number of small institutions than a few large ones.

(*b*) Syllabuses should be of a simple character. The teachers need a general knowledge of school subjects and the methods of teaching them.

(*c*) Courses should be of a very practical character. Demonstration lessons by the staff and lessons by the students-in-training to classes of boys should figure largely in the curriculum of each institution.

GUHA, JATINDRA CHANDRA.

The highest training for a young man is, in my opinion, that which operates to develop and mature his mental powers and impregnate them with the generative principle. Tested by this standard the training imparted under the Calcutta University system can hardly be said to attain to this high level; for, though the University has been in existence for more than 50 years, it has produced very few men who have made new discoveries or important contributions to the advancement of knowledge, or utilised acquired knowledge in new practical fields. The products of this University have ever been charged with a want of originality and inventiveness. Their learning has, in most cases, proved barren, for few of them have given to the world any offspring of their intellectual loins.

To my mind it is the examination system of the University that is mainly responsible for this defective and abortive education imparted under its auspices. An examination of this system will, perhaps, prove my contention. As a large number of students have to be examined by the same standard it is necessary to fix the same course of studies for them all; and this enforced restriction in regard to the choice of subjects and books of study, necessarily imposes very narrow limits on the field of work of both the teacher and the student. Besides this, it leads to cramming on the part of the student, for, as the work required of him is well defined, he tries to get through it with the help of notes and key-books without trying to acquire any real mastery of the subjects he studies. As a matter of fact, the examination questions are framed with special reference to the prescribed text-books, and are mainly intended to test the student's nowledge of their minutiæ, rather than to test his substantial acquaintance with the

subjects of his study. The examiner's duty is thus limited only to estimating the student's knowledge of his text-books. He has very little opportunity of gauging the depth of his real scholarship. Even if, in any case, he perceives high merit or deep knowledge, he is not permitted to give any credit for it beyond the quality of the answers within the range of the questions. It thus often happens that a crammer comes off with greater credit in the examinations than those who could easily beat him in a fairer test of knowledge. The examinations being thus conducted, according to hard-and-fast rules, the labours of the teacher and of the student have become extremely lifeless and mechanical. The teacher's business is to coach the student in the prescribed text-books. All that he has to do is to thoroughly get up these on his own account, labouring through all their vain pedantries and tedious and useless minutiæ, and to help the student to get them up as best he may, by drudging at the notes and "answers to probable questions", furnished by himself and the worshipful company of key-makers. The student thus looks upon the teacher only as a live key or a machine for turning out notes for him, and often thinks that he may get better service from the printed keys than from him. Thus, the teacher's personality does not touch the student, and the teacher, on his part, does not feel any enthusiasm for his dull, mechanical work of firing off grape-shot of small and petty bits of information at the student by which he can make but little impression on his inert and listless mind. This lack of enthusiasm on the one side is reciprocated by a similar lumpishness on the other, too; and it is the effort of speaking only that prevents the teacher from sinking into drowsiness, while it is the loudness of his shouting that keeps the student from falling into a somnolent state. If the teacher is temporarily roused to a slight elevation of spirit by the peculiar interest of a subject, and is betrayed into a more than formal discourse on it, the student regards it as mere waste of time and complains about the shortness of the day's progress with the book lesson. In these circumstances, the teacher fails to impress his own stamp on his pupil and does not feel the same interest in him as he would do if he could look upon him as a product of his own hand, fashioned and moulded by himself; and the latter also does not receive any inspiring influence from his teacher, and has but little reason to feel any high respect for him.

This system of education cannot develop the thinking powers of the student. The chaff which is sown into his brain, though it passes in our University for seed-corn, can grow no wheat out of it; where education is concerned chiefly with cramming and swallowing the student has no stimulus to self-exertion, he has no need to digest and assimilate what he takes in from outside, by thinking. If he can disgorge in the examination-hall what he has hastily swallowed he is considered to have acquitted himself well in the examination; and after that he, though much lightened of his intellectual burden, can, with the University stamp on his brow, easily find access to the learned professions and lucrative posts, and thinks that the University is a perfect gem because it has done so much for him. There is, perhaps, no dearth of talent in the country; but if this appears only in high and brilliant university degrees, and is then buried for ever under the proverbial bushel, we must suspect that there is something rotten in the University; and, if I have tried to put my finger on it I hope I shall not be reproached with disloyalty and ingratitude to my Alma Mater.

GUHA, JITES CHANDRA.

It is an axiomatic truth that personal guidance of tutors, well-appointed libraries, freedom of teaching and study, and ample leisure for teachers for study are some of the essential elements which go to constitute an ideal university, but these are sadly wanting in the colleges of the Calcutta University. With the exception of the Presidency College library, there is no library in any college in Bengal which can afford facilities for higher study to students and teachers. As regards personal guidance there is none of it. The colleges, as a rule, are inadequately staffed and so the teachers hardly get any leisure for study. In many cases a professor is also

a lecturer and tutor, and is overburdened with the work of examining students weekly, fortnightly, monthly, and so on. The 'tutorial system' has added to the work of the professors in many colleges. So it is eminently desirable that the staffs of various colleges should be strengthened to enable students to have the benefit of personal guidance and tutorial assistance from their teachers. As regards freedom of teaching and study, teaching and study are greatly subordinated to the University examinations and confined to prescribed text-books.

GUHA, RAJANIKANTA.

The answer to the first part of the question is in the negative. But this does not necessarily mean a wholesale condemnation of the existing system of university education. What is really implied is this—that we are yet far from the realisation of the ideal.

The existing system is deficient in several respects :—

(*a*) It is one-sided ; it does not come up to the standard of a complete and generous education as defined by Milton. "I call, therefore, a complete and generous education," says Milton, "that which fits a man to perform justly, skilfully and magnanimously all the offices, both private and public, of peace and war." "The highest training" should include, among other things, adequate equipment for the service of the State. Under existing conditions our young men do not get this.

(*b*) The organisation of the under-graduate and post-graduate classes might be further improved. But the most pressing question in this connection is how to finance the schemes of improvement that might be floated.

(*c*) The University might more fully utilise the best talents in the country.

(*d*) Teachers who are capable of doing valuable work should receive greater encouragement from the State and the University, and enjoy better facilities for carrying on their studies and researches. They should have "leisure to follow their tastes, a position of real influence, and an opportunity of rising to distinction."

University education should be broad-based on a sound elementary education, which ought to be made compulsory, and a superior type of secondary education. Dr. Thwing rightly observes that "advanced education cannot exist without elementary."

I might be permitted to make two incidental remarks : —

(i) Education should be considered under three heads :—the motive to study, the instruction, the examination or test. For half a century after its foundation the Calcutta University devoted its attention only to the latter. During the last ten years its educational programme has been thoroughly overhauled ; it has brought post-graduate instruction in Calcutta into its own hands, and is making strenuous exertions to improve the quality of the instruction imparted in the colleges affiliated to it. But it cannot be said that the University has succeeded in creating or stimulating the motive to study ; and this is not entirely its own fault. For the motive can only grow out of a combination of circumstances over some of which it has no control.

(ii) Then, again, it should be borne in mind that in Bengal the mass of ignorance is appalling. While, therefore, no pains should be spared to improve the quality of education it will be a disaster to the country to lose sight of the quantity. In other words, the progress of the one should march along with the progress of the other ; the improvement should be in intension, as well as in extension. No Indian educationist should forget for a moment the fact that while the proportion of university students to the population is about one in six hundred in the United States ; in Bengal it works out at something like one in four thousand.

GUPTA, AMRITA LAL.

The post-graduate classes of the University promise to afford to young Indians of real ability full opportunity of obtaining the highest training. But in order to make them a great success I beg to suggest the following :—

(*a*) Men of undoubted scholarship and experience should be selected for teaching post-graduate classes.

(*b*) Mere scholars without a natural aptitude for teaching and earnestness in the work or young graduates fresh from the universities should not be "dumped" into the responsible work of teaching and examining students preparing for the highest degrees of the University.

(*c*) To command a wider field for recruitment the University should have the opportunity to observe, power to control, means to encourage, and freedom to utilise the talents of the illustrious alumni—many of whom are evidently great professors in the making.

GUPTA, BIPIN BEHARI.

I do not consider the existing system of university education at all satisfactory. If any student obtains a decent training it is in spite of the system. The whole thing should be overhauled—lock, stock, and barrel. The educational methods followed in secondary schools have to be changed; and an absolutely open mind is necessary in order that any honest attempt at reform may bear fruit. We seem to have hardly moved beyond the stage when the University was ushered into existence within a few years of the promulgation of the Education Despatch of 1854. A director of public instruction and a gradually increased staff of inspectors bound together by red tape and moving eternally in the bad old creaking groove of routine work and imposing their will upon all schools—public, aided, and unaided; devising the curricula up to a certain stage uninterfered with by the senate, which is concerned only with the matriculation examination; keeping the teachers and the students perpetually in strait-jackets and expecting that the former will perform miracles in the environment created by the State; hardly keeping themselves in touch with the variable educational thought-currents of the world which have been slowly, but steadily, effecting a transformation everywhere—even in what is supposed to be the changeless East; never rousing themselves into an attitude of giving a new orientation to the Bengali intellect—what wonder that they have not succeeded in making the schools better than they are? Sixty years after the foundation of the Calcutta University, out of a total population of nearly one hundred millions in Bengal, Bihar, Orissa, Assam, and Burma, about 17,000 students, male and female, appeared at the matriculation examination of the Calcutta University, of whom about 12,000 passed. And there was a loud outcry in some quarters that too many boys had passed! Through the portals of the University the young men expect to enter into Government or private service, or to be lawyers, doctors, or engineers. Now, follow these 12,000 lads; two years after, at the intermediate stage, about half the number stop dead; about 6,000 will enter for the B. A. or the B. Sc. course. There is a breathless race for the degrees; more than 50 per cent drops down exhausted; the remainder—what courses are open for them? Law, and the M. A. and M. Sc. degrees. Now, out of the 12,000, we get about 15 qualified doctors, 2 or 3 Bachelors of Engineering, an army of Bachelors of Law, and about 300 M. A.'s and M. Sc.'s. But whoever takes note of the submerged thousands although the grim tragedy of the wastage of the largest percentage of the college-going youth of Bengal has been going on from year to year under our very eyes? And, then, your first-class M. A.'s or M. Sc.'s need not know anything of the geography of the world or of the history of any state in the world beyond cramming a few facts from a fifth-rate text-book on the history of India prescribed for the matriculation examination. The student has no incentive for obtaining the highest training. He is tied down to a system of examinations; he has to adapt himself to the general time-table of the college

GUPTA, BIPIN BEHARI—*contd.*—GUPTA, MANORANJAN.

classes or the laboratory; he is never permitted to work alone or with one or two chosen classmates under professors capable of developing the best within them and of leading them up the rugged heights of Parnassus whence, at rare moments, they may have glimpses of regions hitherto unexplored. The University regulates the number of lectures to be delivered on a particular subject, compels the students to attend three out of four of such lectures, and then makes them undergo a series of examinations. The so-called post-graduate studies are merely strictly regulated courses for M. A. and M. Sc. examinations. This rigidity must be relaxed; and the examinations, tending to reduce everybody to the dead level of the average, must go.

GUPTA, MANORANJAN.

In order to attain the highest possible training in a subject it is necessary that a student should be afforded full opportunity for acquiring a very high degree of specialisation in his particular subject. There are several factors which chiefly ensure that such a standard may be obtainable and the system of university education should conform to them. The more important among these factors are:—

(*a*) courses of studies prescribed in different subjects;
(*b*) teachers appointed to lecture on them; and
(*c*) well-equipped libraries and laboratories for the use of teachers and students.

It is in each of these respects that I find the existing system not quite up to the mark.

As regards the first item in the above list I should like to see the existing courses of studies for the post-graduate classes thoroughly recast, and the corresponding courses for the degree and intermediate examinations modified to suit the revision proposed. Specialisation being my standpoint I maintain that it is impossible to attain anything approaching that end with the courses at present prescribed for the several examinations. Strictly speaking, specialisation courses commence for the first time in degree classes, although the rudimentary stage may be traced as early as in the matriculation class, where over and above four compulsory subjects, two of five subjects of comparatively higher standard, have to be taken up by the intending matriculate; but there is a break in the intermediate course where specialisation has not been at all provided for under the existing system.

I propose to make the following modification in the courses at present prescribed for the several examinations:—

In the matriculation the intending candidate shall be required to take up only one additional subject, in which there ought to be two papers for the examination, over and above the compulsory subjects.

In the intermediate there should be a dual course in every subject, one general and the other advanced; and an intending candidate shall be required to take up only one advanced course, in which there ought to be two papers for the examination, over and above the subjects in the general course.

In the honours degree course (which enterprising and able candidates only need take up I should advocate more thorough specialisation than is at present the case. There ought to be eight papers in the honours subjects, and a candidate taking honours in any subject shall be examined in one other subject only. Under the existing system, in an honours subject the same course is compulsorily provided for every intending candidate; this compulsion should give place to his option in two of the eight papers in which he is to be examined. I should suggest, therefore, that there should be six compulsory papers for all and two optional papers dealing with a specal branch of that subject to be selected by the candidate. A better arrangement, in my opinion, will be for the honours courses to be classified into three groups of which an intending candidate shall be required to take up two only, each group consisting of four papers. In any case, I propose that the honours course should approximate closely to the existing post-graduate course, although I assert that the standard should be decided

GUPTA, MANORANJAN—*contd.*

lower, and for the obvious reasons that the student has passed through the intermediate course only and has to take up one other subject in addition.

I pass on to forward my suggestions for change in the existing post-graduate course, and here I confine myself to a particular subject, pure mathematics. As a rule, in the post-graduate classes modern branches of a subject, and those which could not properly find a place in the degree course, should be selected for imparting instruction, and the courses of studies modified accordingly. In the department of pure mathematics I submit that there should be a bifurcation into :—

(i) analysis ; and
(ii) geometry.

It will, however, be noticed that the division contemplated cannot be non-overlapping and a difficulty will always arise whether a special branch of the subject falls under one or the other of the above broad classes. But each case has to be settled by discussion and mutual consent according to merit. A candidate shall be required to take up either the course in analysis or in geometry, in each of which there ought to be six papers, and besides a special branch consisting of three papers to be selected by him from a group.

Having suggested the courses of studies which, in my opinion, will lead to efficiency and a very high degree of specialisation, I proceed to submit my views on the best method of imparting instruction in these courses. It is here that I notice a grave defect in the function of the teacher appointed to carry on post-graduate instruction. The teacher finds that he knows very little of the students and of their previous training. To remove this drawback I consider it essential that the teaching in the honours and post-graduate classes should be conducted by the same staff as much as possible. The necessity for this step will, in my opinion, be apparent if it is borne in mind that specialised courses are to be taught in both graduate and post-graduate classes, and under the altered circumstances it may be safely conceded that the post-graduate class is but a continuation of the graduate class. Moreover, it is in these classes that the student has to grasp the subject properly and to master its inherent difficulties. As he advances he finds that difficulties constantly increase and complexities retard his progress. It is essential for the teacher to know what they are and to clear up the whole situation. To know the exact position of the student, to maintain uniformity, to save time and labour by not having to recross the same path, I consider it of supreme importance that he should be under the guidance of the same teacher, in so far as a particular branch of a subject is concerned, in both graduate and post-graduate classes.

And there is yet another aspect of the question to be taken into consideration. From the honours classes onwards students have to be prepared for research, but very few can do so of their own initiative. The groundwork of research investigation must be laid deep in the student's heart while he is in these classes. It should be the task of the teacher to encourage an enterprising student and to regulate his ways of thinking and determine his courses of private studies in a work for which he shows special aptitude and, in short, to train him for his future career as an original investigator. For all this it is highly desirable that the honours student should be under the guidance of the same teacher in the same branch of a subject for all his subsequent university life.

In the next place, it ought to be incumbent upon the post-graduate teacher to be in touch with the living authorities of the subject in which he is engaged in imparting instruction either through correspondence, or by making tours during vacation and other selected intervals. In this way alone will it be possible for him to be in possession of the information relating to the most recent developments of a subject. The University should afford every facility so that he may feel no inconvenience during the time he is abroad, but it must also define the scope of his mission, and he will be required to submit a report of his work on his return. A much less effective, but none the less important, way to secure that end is to have a well-equipped and up-to-date library which should be accessible to teachers and students alike all the year round.

Finally, I should suggest that the Unievrsity should encourage teachers of standing and repute to publish the series of lectures they deliver in the classes. In my opinion, a great advance will be made towards the discovery of new ideas and theories in

this way, for it is well known that, except in the case of plagiarism, writing a book leads in not a few cases to new methods and new discoveries.

GUPTA, UMES CHANDRA.

Yes; with the newly established post-graduate system of education. But I suggest that the period of the post-graduate system of education ought to be extended to five years.

HALDAR, Dr. HIRALAL.

The system of university education which was developed during the vice-chancellorship of Sir Asutosh Mukherjee ought to afford to young Indians of ability full opportunity of obtaining the highest training. Several important professorships have been founded to fill which distinguished men have been imported from England. Men of learning who happened to be in this country for the time being have been induced to accept readerships and deliver courses of lectures to advanced students, and the University has been transformed from a mere examining body into a teaching university which has made it possible for scholarly men available to be brought together and in this way to create a centre of learning. If the existing system has not yet produced the expected results it is due not to the fault of the system, but to the difficulty of getting suitable men to undertake the responsible work of training young men. Sir Asutosh Mukherjee did all that could be done to engage the services of the best possible men, and no one can deny the high qualifications of those who have, from time to time, been appointed university professors. But it must be admitted that the result up to this time has, on the whole, been disappointing. With the exception of Dr. Brajendranath Seal no university professor has, so far, succeeded in creating an atmosphere of study and research. Perhaps European professors have failed to be *en rapport* with Indian students and to give them of their best because of the chilling influence of unfamiliar surroundings in a foreign land. I can think of no remedy but to persevere. Early failures have often led to ultimate success.

HALDAR, UMES CHANDRA.

No; the existing system is deficient inasmuch as it does not make any provision for moral training. The physical side of education is also almost entirely ignored. Cramming is encouraged to a great extent.

HAMILTON, C. J.

The meaning of this question appears to be open to several interpretations and I am not quite sure which is intended here. I assume that it is intended to raise the issue whether the Calcutta University as it is at present organised affords full opportunity for obtaining the highest training in those branches of study which normally fall within the sphere of university instruction. The answer to this question, in my opinion, is very definitely in the negative. But, in proceeding to suggest wherein the existing system is deficient, it is important to bear in mind two things:—

(i) the sufficiency of the system, so far as it consists of a theoretical structure for the performance of certain functions; and
(ii) the actual sufficiency of that structure as administered.

In practice, the administrative aspect of the University problems is so intimately bound up with any questions relating to the results achieved by the University as an educational system that a discussion of the latter question, without having regard to the

HAMILTON, C. J.—*contd.*

manner in which the system is administered, will be of little practical use. I gather, however, that the present question is so framed as to demand an answer which leaves on one side the more purely administrative problems, and I will, therefore, as far as possible, leave them out of account.

It may be well at the outset to ask what precisely is meant by the Calcutta University. In one sense the student becomes a member of the University as soon as he matriculates. But matriculation in the Calcutta University does not necessarily mean the entrance of the student into the organic life of a society representative of the highest departments of study in a wide variety of subjects in the way in which it does at the majority of teaching universities, but rather the entrance into the first of what are frequently a series of separate compartments into which the university career, if it is completed, is divided; each compartment being distinct and educationally incomplete. From this point of view the University is an examining body first and foremost. It is also entrusted with certain regulative functions over the schools and colleges designed to secure that the candidates for the various university degrees are prepared in institutions properly equipped for the purpose.

It is not uncommon, however, when speaking of the Calcutta University to mean the teaching organisation which, in recent years, has grown up mainly for the purpose of preparing post-graduate students for the master's degree. Since the beginning of the present session this organisation has been considerably developed and strengthened in accordance with the recommendations of the committee on post-graduate teaching which issued its report rather more than a year ago. It is in this post-graduate stage of the university career that the most advanced work is done. But I assume that the question put by the Commission refers not to the work of the University in this restricted sense, but to its work as relating to the whole of the educational career from matriculation onwards. In any case, it is impossible to discuss the more advanced work of the University in its post-graduate stages without taking the preparatory work of the schools and colleges into account.

It is impossible to understand the problems raised by a consideration of university reform in Calcutta unless the situation, as at present existing, is clearly appreciated in the light of its origin. The University began its existence as scarcely more than an examining body. It prescribed courses of study leading to its degrees. But the work of preparation was carried on in a number of colleges scattered up and down the country, the majority lacking all claim to be regarded as component parts of a university in the fuller sense of the term. In many cases, they were little more than institutions confined to the task of preparation for an examination. Not infrequently these institutions did not even include provision for the preparation of students throughout their undergraduate career. Even where classes existed preparatory for both the intermediate and the bachelor's examinations few of the colleges were recognised by the University as teaching bodies in more than a few subjects. Thus, the four or more undergraduate years were spent by the majority of the students not as members of an organic whole, or university, with its highly developed intellectual and social life, but in separate colleges, in some cases well staffed and equipped, but in many barely capable of giving a stereotyped preparation for an external examination. The courses of study offered by the colleges to their students very seldom went beyond the standard of the bachelor's degree.

The University Commission of 1902 which reviewed this state of affairs emphasised in particular the two great defects of the University as it then existed. On the one hand, it pointed to the evils which followed a complete divorce between teaching and examination. It traced to this cause the narrow conception of the teacher's function generally prevailing as implying that the chief duty of the teacher was to retail to his pupils those portions, and only those portions, of the accepted text-books thought to be necessary to the passage of an examination. In my opinion, this state of affairs which, unfortunately, is as prevalent to-day as it was then is wrongly described as a consequence of the divorce of teaching and examination. No doubt, it is a consequence of the examination system itself that the motive of study becomes partly corrupted, but a debased and mechanical method of instruction is not, properly speaking, a consequence of a separation between the examining function and the teaching function, but is rather a consequence of entrusting the func-

100562

tion of teaching to persons ill-qualified for their task, and upon whom the examination system exercises its worst influence. It cannot be too often repeated that an examination system can only be used with satisfactory results where, in the first place, the examiners are competent to appreciate and be single-minded in their search for evidence of true learning, however elementary, and where the teachers, confident of this quality in the examiners, are both able and encouraged to impart true instruction.

While the Commission of 1902 found abundant evidence of bad teaching accompanied by a poor standard of attainment in the pupils in the colleges they found also that the University was doing little or nothing towards the promotion of learning in its higher branches. Thus, the Act of 1904 may be said to have two main objects. In the first place, it sought to curb the evil effects of the examination system by strengthening the influence of the more experienced teachers over the work of the colleges, exercised through the University, and, in the second place, it sought to develop post-graduate studies by enlisting the help of the abler members of the college staffs. It is a matter of recent history that this eclectic body of university lecturers, as conceived by the Commission of 1902, proved unequal to its task. The most important event in the recent history of the University has been the development of a separate organisation devoted to preparation for the master's degree, a degree which has attracted students in rapidly increasing numbers. Thus, the situation as it is to-day is as follows:—the university career, from the standpoint of the abler students who wish to complete the full course of university studies, consists of two parts, the so-called undergraduate stage passed in a college covering the years from 16 to 20; and the so-called post-graduate stage covering a further two years in the post-graduate classes of the University itself.

I will now try to indicate what, in my opinion, are the principal defects of the situation as it now exists, relative more particularly to the work of the abler students who may be expected to take the whole of the six years' course. The first and greatest defect I believe to be the unsatisfactory standard of attainment resulting to the majority of the students who complete the course. In theory, such students are supposed upon graduating as bachelors not only to have received a general education such as is usually held to be preliminary to entrance upon a university career, but also to have attained a fair proficiency in certain allied branches of learning, either in arts or science, entitling them to a degree. In my opinion, a student upon passing his bachelor's examination should not only possess a fair general knowledge of the subjects which he has chosen for special study, but he should have received a training which will have enabled him to grasp the method of learning. If the distinction between graduate and post-graduate means anything it should mean that the post-graduate student is capable of reading intelligently and critically for himself; he should be capable of listening to a lecture and of taking his own notes of it so as to reproduce in his own words its substance; he should, in a word, not be wholly dependent upon the teacher, but able rather to co-operate with the teacher and ready to take a part in the simpler tasks of original work.

But I think it will be generally agreed that the very large proportion of the bachelors who proceed to the M. A. degree do so without possessing either a thorough grounding in the subjects in which they have graduated and without any capacity for undertaking work by themselves. I have found with the students in my department that the majority have no grasp of even the simple elements of economic or political theory. They have usually read but few books. They have no other conception of a lecture but as an opportunity for taking down verbatim the words of the lecturer. The result is that when the student begins his preparation for the master's degree he has virtually to be treated as though he were just commencing the study of his subject. Instead of a general grounding being assumed the course has practically to be arranged as if designed for those taking an initial degree. I am conscious that the work of the department of economics may not be quite upon all fours with the work in some of the other departments, but it is my firm opinion that the work for the M. A. degree generally, in whatever subject, is in no sense to be properly described as post-graduate, but is in scope and standard suitable to a course leading to an initial degree taken in a single subject.

Assuming the defective standard of attainment to be a fact it becomes necessary to seek for the causes. In my opinion, the explanation does not lie in defective natural ability

HAMILTON, C. J.—*contd.*

on the part of the students of the University. I have had experience of lecturing to the students of the University of Wales and of both pass and honours students in the University of Cambridge. Without instituting any close comparison between the mental capacity of British and Indian undergraduates I feel at least confident that the defective standard of attainment amongst the undergraduates of the Calcutta University is not to be ascribed to defective natural ability.

It is not infrequently suggested that one at least of the principal causes of the low standard of attainment on the part of students is that the age of matriculation is too low. The age at which a student can now matriculate is slightly under 16, which is at least two years younger than the normal age of matriculation in the teaching universities of England, although it agrees with the matriculation age recognised for the purpose of the external degrees of the University of London. In the case of Scottish universities also it is not uncommon for undergraduates to matriculate at this age. I do not propose here to consider at what minimum age a student should be admitted to a properly constituted teaching university in India. But I feel confident that merely to raise the age of matriculation while leaving other things the same would have little or no result in raising the standard of university work.

Again, it is frequently urged that one of the principal causes of the present unsatisfactory state of affairs is the excessive number of candidates who now compete for a degree. Doubtless, the rapidly growing demand for higher education has led to the multiplication of schools and colleges and has thus contributed to put a strain upon the teaching resources of the country. There are admittedly certain particular abuses which are almost entirely abuses of mere numbers. But I feel confident that the real cause of the evil is not to be found in the large numbers of candidates, except to a minor extent. If the number were halved or quartered, other things remaining the same, the standards would continue to be nearly, if not quite, as defective as at present.

I believe that the true cause of the evil is to be found almost entirely in the defective quality of the teachers under whose influence students pass their University career. The question of teaching is, in my opinion, the very crux of the whole problem of university reform in India. Without a real improvement in this respect no changes of constitution, of examination ages or standards, of the size of classes, or the number of candidates will have any important results. Regarding this as the essence of the whole question I will endeavour to indicate the principal ways in which this defective quality of teachers is shown.

It must be remembered that teacher , or at least a large number of them, are also the examiners. Their work can, therefore, be considered under the two aspects of teaching and examination. I will take first the defective character of the teaching. In the first place, I do not think it is an exaggeration to say that the teaching appears to be entirely dominated by a false outlook. This outlook is limited by the fact of the examination. The object of the teacher seems only rarely to be the development of the intellectual capacity of the pupil. It is primarily to enable him to answer certain examination questions. The pupil is not encouraged to think, to be curious, or to question, but to accept upon authority answers to possible examination questions which the teacher himself accepts upon authority. Thus, the defective outlook of the teacher has a bad influence upon his method of teaching. Questions of interest are not followed up for their own sake. The pupils are not led to think or to analyse for themselves. They are in no way thrown upon their own resources. The result is that the one general notion of the method of study is to acquire facility in retailing, if possible verbatim, opinions and theories to be found in the notes of a lecture or the pages of a text-book. It has sometimes been supposed that the defects to which I am here referring are the direct consequence of the examination system. It must be remembered that these defects are in no way peculiar to India. They have been emphasised in descriptions of the educational problems of Japan. They were constantly referred to in discussions over university problems in America. In America the examination system was, for a time, and in the West, almost wholly, discredited. But the disappearance of the examination had no very great effect in bringing about an improvement in the education. The truth seems to be that the influence of the examination is bad where the teachers are bad, but the removal of the examination does

not turn bad teachers into good ones. When the teachers are capable, in my opinion, the examination system is useful rather than otherwise. If the defective teaching, speaking broadly, is the outstanding characteristic of the colleges in which the undergraduates spend the greater part of their university career it is important to remember that the same defects find expression in the work of the examiners and thus, by the inter-actions of examination upon teaching, the evil is emphasised and confirmed. I do not here consider whether the present standard required by university examiners is sufficiently high, or whether the methods of conducting examinations adequately secure uniformity of standard. What I wish to emphasise is that the standard set by the paper setters and examiners is a bad one because affected by the same errors as afflict the teaching itself. I feel convinced not only that the majority of the Indian examiners frequently set bad questions, but that still more frequently they have a false criterion of excellence by which answers are judged. Questions are not set with the object of eliciting a power of intelligent application in the pupil so much as with the object of affording an opportunity to display a merely mechanical facility or a simple feat of memory. I believe these defective qualities among the great number of the teachers of the Indian colleges to be the primary cause of the bad standard of attainment. The teachers, at any rate those occupying the higher posts, have grown up in a regime in which the defective methods and standards are so general as not even to be recognised as defective. The whole thing is a vicious circle. The teachers of the schools and colleges are the products of the University, where the very defects in the method of learning and in the standards of attainment have found full expression. Through these products of the University the evil influence is brought to bear upon the next generation of the schools or the colleges. It is sometimes said that a reform of Indian education must begin in the schools on the ground that it is in the schools that the early intellectual habits of the pupils are formed and where, in particular, they must receive their knowledge of English, which is the medium for the greater part of subsequent instruction. But while not denying the great importance of an improvement in the schools it is yet true that this improvement depends very largely upon an improvement in the quality of the school teachers. These teachers are the products of the University. Not until the University is able to turn out a sufficient number of men who have themselves spent several years under professors who understand how intellectual excellence is to be judged, and in what the methods of learning consist, will real progress be possible in the lower stages, the colleges, and the schools, where the foundation of education is laid. Consequently, while I regard the existing system of university education as seriously defective as being marked by an unsatisfactory standard of attainment I believe that the remedy must lie in the upbuilding of a teaching university capable of preparing a new generation of teachers who will bring a new influence and a new conception of learning into the schools and colleges.

HARLEY, A. H.

(*a*) At the matriculation stage a student ought to have a more extensive acquaintance with Arabic or Persian literature than the present book of selections requires. (As the same standard is set in Sanskrit the following remarks would be applicable to that subject also.) Elsewhere, a matriculate has read several works of several of the best authors and by the time he enters the University is qualified to specialise in the language if he should desire to do so.

(*b*) The present syllabus does not permit a student to study more than one classical language and, consequently, he is debarred from the higher ranges of work in Semitic or Iranian.

(c) The M.A. degree requires one language only. This is utterly unsatisfactory and the best results cannot be achieved until the standard which prevails for one language only is required for two, studied and offered simultaneously, or better still until three languages of the same group are offered, the standard in one being not inferior to the present M.A. and in the others to the present B.A.

HAZRA, JOGENDRA NATH.

Young Indians of ability do not get the full opportunity of the highest training in the University of Calcutta. My reasons for coming to this conclusion are :—

(*a*) There is very little attraction for the men of first-rate ability to join the Educational Service.

(*b*) There are very few opportunities for students to come in contact with their teachers. Thus, they are precluded from benefiting by the guidance and encouragement of their teachers.

(*c*) Students do not get the opportunity of working and associating with their fellow-students of different grades. The present system of separating graduates from undergraduates in boarding and in their college work deprives the latter of the help and guidance of the more advanced students.

(*d*) Very little has yet been done for the creation and development of university life which would allow students and teachers to live in an atmosphere of education. For this purpose there should be debating societies which would encourage free discussions of special subjects among students and also among lecturers of different colleges. There should also be arrangements for lectures on the general subjects of culture not included in the University courses.

(*e*) The object aimed at present seems to be only a sort of intellectual development of students.

(*f*) There is practically no provision for social, moral, and physical development in the university life of students.

(*g*) Both teaching and study are unduly subordinated to university examination as if students come to the University only for degrees, and not for real training.

HOLLAND, Rev. W. E. S.

I am glad that the first question implies a recognition that the preparation of its alumni for life is the chief function of a modern university. I take it this was not the original aim, at least of the mediæval English universities. Oxford and Cambridge were at first groups of persons whose chief passion in life was the pursuit of learning and knowledge for its own sake. And it is essential that such persons remain the core and controlling influence in our modern universities. But, in order that this enthusiasm for learning may be perpetuated, and its actual achievements made available for the community in general, society rightly demands that these devotees of knowledge shall communicate their gifts to others, and assist in the work of education, only so that you do not saw off the branch on which you wish to sit. It is an absolute condition of a university that, in the case of those who form its soul, it keeps true the balance between the desire to acquire, and the desire to communicate, knowledge. The two ends are not incompatible. For the sum of the world's knowledge can only be added to by co-operative effort.

Be this as it may, the modern world inexorably demands of its universities that they shall give their alumni the best possible training for life. For it has now come about that the great majority of the brightest intellects of a nation spend the last fateful years in a university before actually stepping out upon their work.

If it be the function of our University to afford "full opportunity of obtaining the highest training" to young Indians of ability there can be no question that the Calcutta University fails lamentably. To my mind this is due to the following principal causes :—

(*a*) The prostitution of our Indian universities to the rôle of supplying a qualifying examination for admission to Government service and certain professions.—This relationship aggravates the situation created, on the one hand, by the poverty of the educated classes in Bengal, on the other, by caste custom and prejudice which inhibits gentlemen from entering upon industry, commerce, or any kind of manual profession other than the use of

HOLLAND, Rev. W. E. S.—*contd.*

the pen. Here in Calcutta, with its abounding mercantile life, no student has ever, of his own initiative, approached me for an introduction to a merchant's office. Yet the poverty of these classes is intense. It is the determining factor of higher education in Bengal; a poverty of which every principal has heart-breaking evidence. Education is the nature of a family investment, to enable the recipient to feed and maintain a crowd of dependent relatives. The student can have his eye on little else. Students do not enter our universities to acquire learning or to be trained all round for the battle of life. I am not sure that I have ever come across an Indian student who made me feel that he had come to the University with either of these aims as his principal motive. Very seldom indeed does one meet students with whom either aim is strongly in evidence. Almost without exception the one anxiety is to pass examinations which will qualify for appointment to certain posts or admit them to certain professions. The one imperious necessity is to obtain the 'degree' that will keep the wolf from the door. Hunger not for learning or development of faculties, but for bread and butter, is the motive behind our students. The one supreme cruelty is to refuse a poor applicant his degree. It dooms him to destitution. The desire for learning and a liberal education strives hard to survive in competition with the craving for mere livelihood. That it does now and then manage to do so is evident from the cultured scholars one comes across among men of maturer age. In most, the system breeds a positive distaste for the learning that is sought not for its own sake, but as a means to another end. It is the rarest thing to come across anyone who has the desire to continue study after taking his degree. Books are done with and banished on the proud day of graduation. Our university system, instead of encouraging the love of learning, kills it. And this is the more tragic because there can be few peoples who have more instinctive bent or gift for intellectual pursuits than the population of Bengal.

(b) The Calcutta University is the apotheosis of examination—and, therefore, the mausoleum of culture.—A very distinguished teacher told me that, as he drove out of his college gates after 25 years' service, he said :—" So end 25 wasted years. For 25 years I have been trying to teach chemistry to men who did not wish to study chemistry, but to pass a certain examination." It is a refreshing experience to come across a student who has a real interest in his subject. Most tell you with perfect *naïveté* that they only wish to learn enough of their subject to pass in their examination, and then to have done with it for ever. If in teaching you develop a particular theme beyond the point at which it will tell for the examination the class at once becomes restless. (This perhaps is hardly true of the teaching of a subject like philosophy.) Students want not knowledge, but a degree; and the degree for its commercial value. Students determine their choice of course not by interest in any particular subject, but by the length of text-book prescribed. For this reason logic and chemistry are popular subjects, history the reserve. A student will say :—" Sir, there are three long text-books in history, and only one, so thick, in botany." If in any year there is a larger percentage of failures than usual in a particular subject there will be a heavy drop in entries for that subject in the ensuing year. The taint unconsciously infects the teachers. When, owing to the very late opening of the first year class this year, I was urging the curtailment of the Puja holidays, in order that the students might lose as little as possible, one of the principal educational authorities in Calcutta replied :—" Oh, the students will have no cause of complaint. The syllabus will be curtailed, and they will get their degree all the same." And neither of two principals standing by thought the remark other than perfectly natural and fitting. The academic spirit cannot survive in the sordid and stifling atmosphere of the University. The engine of examination crushes the heart out of the teacher and student alike. The teacher who is tempted to lead out his pupils' interests along some engaging line of study knows he is wronging them; for time so spent may mean failure in examination. A

HOLLAND, Rev. W. E. S.—*contd.*

popular lecturer's notes are eagerly borrowed or copied and committed to memory as the surest road to success in the examination. The 'best' notes take the form of a continuous series of answers to probable questions. History is often taught in the guise of dictated answers to some 30 or 40 such questions, covering the whole period. The cheap cram-books. Instead, they cram up one of these little hand-books of which the most persuasive advertisement is :—" Perusal of the pages of this brief booklet will make study of the university text-books unnecessary." He is torn in two between a desire to train and liberate the often splendid capacities of his students, and his sense that he is wronging them if he does not cram them so that they will pass.

(*c*) A third medical defect in the present system is the absence of standards, the absence of any clear perception of what university work means.—Now there is nothing arbitrary about university standards. A university is a society in which the greatest living authorities in the several branches of knowledge impart their best. And the standard of admission to this society (matriculation) is such mental calibre and general training as shall enable the person admitted to understand and profit by the teaching so given. These standards seem almost ludicrously inapplicable to the Calcutta University. It is difficult to discover the *differentia* of a degree standard unless it be the average amount of information that may reasonably be expected of the more intelligent section of the youths of, say, 20 years old, who happen to desire to join our colleges. And it is hard to resist the conclusion that standards have dropped considerably of late when one meets the cultured Bengali gentleman who was in college 30 years ago and compares him with the product of our college to-day. I have already furnished the Commission with some facts and figures which indicate that the Calcutta standard is considerably lower than that of Madras. Quantity, not quality, tends to be the standard in Calcutta. Our I.A. history student takes five subjects, of which history is one. His 20 months' course covers the whole of Greek, Roman, and English history. His text-books are Smith's " Smaller Histories of Greece and Rome " and Tout's " School History of England." (This is being changed.) An Oxford honours history student will have studied, say, 3 years of French history, 250 years of English history, and 350 years of European history. But he has done a good deal of reading of original documents, has learned the standards, methods, and meaning of history, and probably leaves Oxford realising how little he knows and with the student's passion to know more. The Calcutta history M.A. has read the history of the whole world save China and South America, has done a minimum of study of original documents, and is encouraged by the whole system of his university to fancy himself master of his subjects.

(*d*) A pair of most serious evils spring from the stage at which students are admitted to the University—

(i) Instead of a homogeneous body of students a heterogeneous mass occupies the benches of most college classes; which means that either those at the bottom have to be neglected, or (as usually happens) the whole level of teaching drops to the intelligence of the most backward members of the class, and the really clever and intelligent boys at the top do not receive the education of which they are capable. False kindness to those who are really incapable of university education is resulting to-day in the intellectual starvation of the best brains in Bengal.

(ii) The domination of the University by school methods. For at least two years our students are incapable of instruction except along school methods. Up to the I.A. it is all really school work. The teacher teaches the entire subject to his class. I have always, in writing to recruits for our staff in England, told them to prepare to teach Vth and VIth form English schoolboys; and the success

of our college in I.A. work (83 per cent of passes last year, and 84 per cent this year, though the whole class was sent up for examination) suggests the advice is sound. And the mischief of having this school work done in a university college is that the school methods necessary in the first two years dominate the whole University right up to the end of the M.A. course. At no point is the undergratuate a 'student,' *i.e.*, a person who is studying a certain subject under the guidance of his tutor, while attending lectures which will reveal to him the real standards of knowledge. All the time he is a pupil, being taught the whole of his subject by his teacher. There is grave dissatisfaction if any of the course is left untouched. Dictated notes are almost the universal form of lecture. And they must cover the whole course, and answer every likely question. I am told that one of the most distinguished university professors writes out the whole of his lecture on the black-board, to be copied by students who seem incapable of taking their own notes. I have never seen a properly taken note in the book of any Calcutta student. Indeed, I am not sure that I have ever seen the feat even attempted, save in the abortive efforts to work along these lines of almost every lecturer fresh from England. The staff of our own college, though we are peculiarly successful in university examinations, is often described by our students as "bad" because "the professors make the students do everything themselves" This is the student's verdict on our tutorial system.

(*e*) The absence of inter-collegiate co-operation prevents that specialisation in study on the part of the staff which is essential to the best and highest work.—Each college has to be, on its teaching side, a complete university. Each lecturer has to teach his class the whole of their course in his subject. The conditions of their work discourage the lecturers from prosecuting advanced study in some special section of their subject. Their students do not want it. Time so spent is likely to detract from the efficiency of their work as examination crammers on the rest of the course. They become mere lecturing hacks. The academic atmosphere is absent. There is nothing like the life of a senior common room. The lecturers do not constitute an intellectual society, stimulating one another to true study and cashiering shoddy learning. There is no stimulus to research, and seldom leisure for it. Each college is a water-tight compartment. Inter-collegiate lecturing, making specialisation a possibility, would introduce a healthy strand of competition, and would at once result in a rise in the general level of teaching. Then each college might have the intellectual stimulus it now lacks—the presence on its staff of one or two men who were masters in some branch of study. Inter-collegiate co-operation is necessary if students are to have access to great minds outside the little group who constitutes the staff of their own college.

The reason for the failure to introduce inter-collegiate co-operation in lecturing is patent. In the absence of either a tutorial or a residential system the *esse* of a college consists in the fact that its students attend the lectures of that college. The entity of a college disappears if a student is attending equally lectures in half a dozen different colleges. The soundest basis for inter-collegiate lecturing is, of course, residential colleges. But the tutorial system supplies another possible basis.

(*f*) The unwieldly or unmanageable size of many colleges.—That personal touch by which the scholar can communicate to his pupils his own passion and enthusiasm, and give each severally the particular guidance or stimulus he requires; that intimate intercourse in study or laboratory, which will disclose to the student the real working of his teacher's mind, is impossible under the conditions of colossal overcrowding prevailing in Calcutta. It is not that the class to which you lecture is too large. A large class may inspire a higher level of teaching; though there is surely a fatal loss of

HOLLAND, Rev. W. E. S.—*contd.*

human touch when the register of a class has to be called by number, not by name. But the teaching of almost every college is totally inadequate for the working of any sane tutorial system. Lecturers and students wander about crowded corridors, utter strangers to each other. The human element is crushed out. The college is a barrack of lecture-rooms. The proportion of teachers to pupils in Oxford and Cambridge is perhaps 1 to 6 or 7. Here it is perhaps 1 to 50. Colleges are so crowded as to make the residential system an impossibility. But casual association in crowded class-rooms for a few hours in the middle of the day does not constitute that corporate intellectual life and effort which the terms college and university suggest.

(*g*) The degradation of colleges from university work by the superimposition of a large cadre of university lecturers, who tend to monopolise higher teaching.—The lack of inter-collegiate co-operation has led to the introduction of what threatens to be a calamity of the first order. Reformers are aware that few things are more needed in Calcutta than a true society of teachers. Unable to see a way to lift the staff of each of the several colleges to university level they have created a large body of whole-time university lecturers, who are rapidly securing a monopoly in the higher teaching of the University. The great mass of college lecturers is shut out from any participation in the highest work. The M.A. lecturers and students constitute a superior and isolated grade, unconnected with the colleges. Students of our colleges are cut off from contact with the teachers, who are doing the highest work. The colleges are degraded to something short of university work.

(*h*) Exclusive attention to the intellect of students who complete their education at the University.—India has magnificent traditions of education in the Guru-Chela system. This has been displaced *in toto* by the introduction of a great system of Western education which has never been assimilated. It has as yet no traditions of its own. It is entirely unconnected with the home life of India and domestic education. It has no roots in the soil of the land. It grows out of nothing, but is imposed from above. It involves a complete breach with the reverences and moral sanctions of childhood and the home. For Western civilisation contains within it forces which are inevitably the solvent of the whole system of Indian thought, and faith, and life. Western education cannot, therefore, be other than a very destructive influence. The wonder is that the explosions are not much more violent. The problem of supreme difficulty is to find or create new wireskins, to institute a really constructive system of modern education, The all but complete neglect, until quite recently, of physical, moral, and spiritual considerations in the Indian educational system has had disastrous results. Students have been housed in conditions unsanitary and unhealthy beyond words. Oppressed by poverty they have gone straight for the cheapest, and therefore, the worst, lodgings they can find. Puny in physique, muddled together, without recreations or healthy exercise, in the slums of Calcutta they have tended to become stunted and overstrained in body, with a nervous system often reduced to hysterical conditions. Unsupervised, remote from any public opinion for which they care, living amid the vile temptations of this great city, moral shipwreck is grievously common. In these two respects great improvement has recently been effected. But very much remains to be done. And there is grievous danger of forgetting that a hostel is not a barrack, and that a lot of students herded together without effective supervision may work more mischief on one another than when living in comparative isolation. Not without reason does an Oxford college choose the strongest character upon its staff to be the dean.

No body of students, surely, can require more wise and close personal guidance than men who, by introduction to the thought and science of the West, have cut adrift from the moorings of the past. Where is a student so educated as to find religious

compass or rudder? The Calcutta student needs not less, but more, far more, individual attention than his brother in the West. He knows not where to find the influences which should guide him. The Calcutta teacher needs to do immeasurably more for his students than is necessary in a British university. The boy has probably got loose from the control that surrounded his childhood. His school education has been lamentably defective in its development either of individual judgment or corporate spirit. Even his very athletics and college societies will die of inanition unless constantly stimulated by the college authorities. Yet nine-tenths of Calcutta students never meet their teachers outside the lecture-room. Few, very few, are known by name to any member of the staff.

(i) *Finance.*—Desperate financial straits make respectable academic ambitions almost impossible for the average college. This is perhaps a point so patent as not to require emphasis. Very few have sufficient financial strength behind them to be able to limit their admissions to college by the number of students they can properly handle. To pay your way you must have huge classes and a small staff, which at once spells incompetent and shoddy education. Some colleges, again, seem still to partake of the nature of a financial investment for the proprietors (who may include the principal!) Nor does it make for independence of judgment in the University that inadequate pay forces so many to scramble for the patronage of the powers that be, in whose hands lie all appointments to examinations, or other university posts.

HOLMES, Rev. W. H. G.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training.

My reasons for this answer are :—

(*a*) The majority of the students who come to the colleges in Calcutta do not know English sufficiently to be able to receive instruction through lectures delivered in English. The class which they join possibly contains as many as 150 members, and occasionally even more. They cannot hear distinctly as the acoustic properties of rooms built for a tropical climate are generally bad. They, therefore, devote the whole of their energy to writing from dictation certain words and sentences. Any elucidatory comment by the lecturer is not followed or understood by them. They can only write down what has been slowly dictated, and this they not infrequently take down wrongly. The words which they hear and write down do not represent thoughts to them, or the relation of one thought to another, but simply sounds and collocations of letters which they are to do their utmost to retain in their memory. Their private study consists in repeating these sentences to themselves over and over again until the desired result is obtained. They are not thinking either in English, nor, having translated the English into Bengali, are they thinking in Bengali. Practically, no students think in English ; whatever thinking they do is done in Bengali ; and the result is that, as regards their work in English, the only mental faculty that is brought into play is that of memory.

In every class there are members of real ability. These are, therefore, deprived of the opportunity of obtaining the highest training. The lecturer has to fit his methods to the mass in front of him. The mind of the able boy is cramped. Its training is lopsided. He has no real stimulus to think. Indeed, he is afraid to think for himself. He is apprehensive that if he does he may lose marks in examination. He deals entirely with words, and not with things or thoughts. This habit of mechanical study possesses most students throughout their course. Some of the abler ones are able to break away

HOLMES, Rev. W. H. G.—*contd.*

from it later in their career, but they have lost much by the faulty method of training at the beginning of their course. I have coached an Indian student of first-rate ability and found how greatly handicapped he was by this early habit of using his mind almost exclusively in one way. As the first and second year classes in arts are at present constituted there is no solution of this difficulty. The only possible way of teaching 150 members of a class together, when a language imperfectly understood is the medium of instruction, is that adopted in nearly all the colleges, and it is that of dictation by the lecturer and "by-hearting" by the learner, but it does not give to a student of ability "full opportunity of obtaining the highest training."

(*b*) A student of ability is injured if he begins his university education either too early or too late. In this University, though it may seem paradoxical to say so, he begins both too early and too late. He begins too early in this sense: his first two years of university life are spent in doing work which ought to have been done at school. The work for the intermediate examination in arts is work that ought to be done before a boy leaves school. Thus the lad comes into university surroundings and conditions too early.

He begins too late in this sense. A boy of ability with one more year at a really efficient school would make more real advance than he makes in two years in the crowded class-room of the University. Under the present system he does not begin his real university work until two years after his matriculation, that is generally about the age of 18 or 19. He would easily be capable of beginning it a year earlier, and it would thus be possible to make the course for the B.A. one of three years. An Indian boy matures earlier than a European and, if the age for matriculation were raised, and the standard raised to something that now passes for the standard of the I.A., the unfit would be eliminated and Indians of ability would get a better opportunity.

(*c*) The fact that the University is almost universally regarded in Bengal as the avenue to Government employment is the great cause of its educational inefficiency. Students who crowd to the colleges are not sent there by their parents for the sake of the education as education, but because that education, if certified by a degree, may be the means of obtaining for them a Government post. The money spent on their university education is regarded as an investment which it is hoped may prove pecuniarily fruitful. It would be almost true to say that all students who matriculate in any given year intend to seek Government employment; that, after passing the B.A., they will read law so as to have a second string to their bow should they fail to get a Government appointment. They only turn to the profession of teaching when they believe that there is absolutely nothing else for them to do to earn a living. The huge and increasing numbers of boys sent up for the matriculation year by year are sent because those who have charge of them see no other prospect of their being able to find employment. Boys of all kinds, those of good, or of moderate, or of meagre, abilities, are all put through the same mill, simply because it seems that there is nothing else for them to do.

Thus, the swollen classes which are seated before the lecturers are there primarily not for educational, but for economic, reasons. Hundreds, probably thousands, would not be there at all if there seemed any other feasible method by which they would be enabled to support themselves. Thus it is that the young Indian of ability suffers. He is compelled to receive an education the quality of which is determined by the average attainments of those whom economic pressure has pushed into the University.

These are, I believe, the main causes which operate to the injury of those who are capable of responding to the highest educational training: they are taught on wrong principles because the majority of their fellow-students are incapable of real instruction through English; they waste at least a year because they continue to do school subjects

HOLMES, Rev. W. H. G.—*contd.*—HOSSAIN, WAHED.

when with proper teaching they would have attained to something higher; they suffer grievously from the fact that the standard of education declines owing to the numbers that enter the University for economic, rather than educational, reasons.

HOSSAIN, WAHED.

I respectfully submit that this question is very vague. In the first place, it is not clear whether "highest training" refers to the subjects a youth takes up for his study, or to his career in life, as a trained youth fit for every walk of life. However, it seems to me that the existing system of education does not afford to Indian youths full opportunity of obtaining the highest training.

The system is defective in the following respects:—

(*a*) Multifarious subjects and numerous text-books.—Students hardly find sufficient time to devote themselves to an intelligent mastery of the subjects they are compelled to take up for a particular examination. Much less do they find time to go through all the prescribed books. Generally, they overburden their memory with notes and catechism and pay attention to those passages only which are likely to be set in the examination. To secure a 'pass' at an examination being the main object in view a general acquaintance with the subject matter of the courses of studies is considered sufficient, rather than their mastery.

(*b*) Want of first-rate professors of ability and learning is also responsible for many a deficiency.—Without meaning any reflection I may be permitted to say that, ordinarily, professors themselves have not the highest training in the subjects they teach. The first-rate scholars seldom come out to India, and the best Indian of ability takes to law and other professions as the pay and prospects of Indian teachers and professors are very poor. Hence, our colleges seldom get a proper supply of the best and the most competent men for the profession of teaching.

(*c*) Want of proper library and laboratory accomodation is a great desideratum in the way of proper training.—Government colleges have some sort of libraries or laboratories, but the private colleges, with a few exceptions, suffer much from want of proper equipment.

(*d*) *Lack of enthusiasm.*—The education of the Indian does not proceed on national lines. On this subject I respectfully beg to draw the attention of the Commissioners to the observations made in the following extract from my speech delivered at the school section meeting of the All-India Muhammadan Educational Conference held in December last at Calcutta:—

"The Indian universities are exotic plants brought from foreign countries and planted on the Indian soil. Naturally, their growth has been affected by their environment. European ideas and thoughts saturate the Indian mind and lay a coating over the manners and habits of the boys who receive instruction under them. But much of their effect is short-lived. The present university education, therefore, produces a denationalising effect and a sort of confusion arises between the acquired European ideas and the deep-rooted Indian sentiments and oriental modes of thought. The effect of such forced action and natural reaction at different stages of life retards the healthy growth of national life. Such consequences may be avoided if university education proceeds on national lines agreeable to Indian genius and Indian sentiments.

"Boys from the beginning are made to read stories from Herodotus and Homer, tales from Roman and English histories, and European folk-lore of the mediœval age. But they are left utterly ignorant of the stories of their national heroes, ancient savants, and knights so well-known for their learning and chivalry. Foreign tales and stories may appeal to their sentiments to some extent, but fail to produce a lasting impression upon their mind; for the stories and tales very-often depict traits of character foreign, and sometimes running counter, to Indian ideas and sentiments. Such books are read merely to secure pass marks or pick up some knowledge of English, but are seldom pursued

with the heartiness and reverence that would serve to form the basis of their character. It may be said that these books are generally read in schools; therefore, the proposal does not come within the purview of the inquiries of the University Commission. But it should be remembered that schools are feeders to colleges, and the character of education imparted there should be determined by the University.

"I would, therefore, suggest that steps be taken to remodel the University, and means should be devised to impart education on national lines in conformity with Indian genius and Indian sentiments.

"Dearth of English text-books dealing with truly national subjects may be a difficulty in the way. But if the University appoints a board of experts or reputed scholars to write such books the difficulty may be easily overcome. The publication of approved text-books may also be a source of income to the University. But liberty of private authors to write such books should not, however, be restricted in any way."

(*c*) Training in other respects.—The existing system of education is narrow and does not give free scope to the wider activities of life. In fact, it produces, and tends to produce, with a few exceptions, a particular class of men fit for a particular purpose, *viz.*, for State service. Our universities impart education which does not satisfy the needs and requirements of the country. No one disputes for a moment that university education should be of an ideal character, but it should be practical as well. The educational policy should, therefore, be so fashioned that ideal education might solve the practical problems of life. Having regard to the existing state of the country and the modern conditions of life it is very desirable that the Indian universities should be so remodelled that they may supply food not merely for the brain, but also for the hungry mouth. In this respect the existing system of education is very deficient.

HUNTER, M.

I do not think that the existing system of university education offers to students in India the highest form of training; the main deficiencies are in laboratories, libraries, and tutorial classes for the higher students. As long as the system of affiliated colleges forming the University exists the strength of the University will be, to a considerable extent, measured by the strength of its weakest affiliated college. I am doubtful whether in a university like Calcutta the attempt to develop university as distinct from collegiate education is thoroughly sound, as I hold that in a university built up of affiliated colleges every effort should be made to improve the colleges so as to enable them to give their students the highest training. Loyalty to a college (the first step in producing loyalty to a country) should be one of the main points in training a student, and this is not fostered by taking the highest teaching out of the hands of the college and transferring it to the University.

HUNTER, MARK.

I certainly could not answer this question in the affirmative unless I were prepared to maintain that the Indian university I am best acquainted with had reached a stage of development beyond which no advance could, or need, be looked for. I am convinced, however, that by the reorganisation of that University, effected as a consequence of Lord Curzon's University Act, and particularly by the institution of undergraduate courses in honours, and of post-graduate studentships, by the appointment of university professorships, the founding of a university library, and in other ways, a very great advance has been made upon older conditions, and much has been done to offer young Indians of ability an academic training which, if not the highest, is about the highest that present conditions permit.

It would be easy to suggest changes of a radical character from which conditions much more favourable to academic progress than existing conditions might be expected to result; but I do not believe such changes to be at present practicable. Steady improvement, more or less along existing lines, seems the thing to be immediately aimed at, together, of course, with a full recognition of the many limitations and defects inherent in the very system of an Indian *federal* university, and a readiness to seize every opportunity to mitigate the defects and neutralise the limitations. A time may come perhaps when it will be possible to substitute two or three centralised universities for the existing federal University; but meantime, I believe, every one in South India who has any true conception of what a university ought to be, and is, at the same time, solicitous for the welfare of the University of Madras, regards any fundamental changes which are in the least likely to take place as things to be feared and withstood, rather than to be courted. The changes that actually threaten us—as shown by the 'feeler' lately thrown out by the Government of India in the matter of a reform in the constitution of university senates, and by resolutions recently passed by the senate of a sister university—would, I have no sort of doubt, merely undo the good work of the last decade, and render genuine academic advance impossible.

These remarks apply exclusively to the University of Madras. Elsewhere, for aught I know, immediate radical reform may be imperative.

HUQ, The Hon'ble Maulvi A. K. FUZLUL.

My answer to the first part of the question is in the negative.

To indicate in what main respects the existing system of university education is deficient, in so far as it falls to afford to young Indians of ability full opportunity of obtaining the highest training, would practically amount to a statement of the principal reasons which have led to the appointment of the Commission. Stated briefly, I would specialise my reasons for my opinion as follows:—

(i) The absence, in a more or less marked degree, of the conditions set forth in sub-heads (*a*), (*b*), (*c*), and (*d*) of question 2.

(ii) The existence of circumstances which have led to the Indian universities (Calcutta in particular) becoming mere examining bodies, rather than centralised teaching institutions.

HUQUE, M. AZIZUL.

In my opinion, the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training, which involves an acquisition of an amount of culture, knowledge, and enlightenment, side by side with a command of all the sources of strength of character and tenacity of purpose, together also with lessons in the law of give and take, the great moral code of practical life. The University should kindle among its alumni a spirit of searching and seeking. Training involves something more than mere knowledge. So far as knowledge, or even culture, is concerned the present system affords some opportunity in its acquisition, though even here there is scope for much improvement. The present university system of education is defective in the following points:—

(*a*) The University controls only a small part of a student's life. Outside the class-rooms very little is felt of academic influence. Even in the class-rooms the personal element counts so little. The influence of the few hours in the class-rooms is counteracted through the influences of the remaining hours. The best training involves that at a certain period the growth of a student's life—the frame of his mind, his habits, and tendencies—should be watched with all caution and care. The present regulations though providing for an elaborate and outwardly polished system of control and supervision of a student's residence, are almost ineffective in the above respect.

I was a college student from 1907 to 1914. The new regulations had just then come into operation and we were the first batch to appear at the intermediate examination

HUQUE, M. AZIZUL—*contd.*

under the reformed regulations. I say from my personal experience that the messing system of residence in which, I believe, the very largest percentage of students lives does not in the least carry the students farther than the class-rooms. In short, it does not confer any advantage of residential life. The messes are too scattered and numerous to be of any use in the propagation of any useful movement, whereas they are particularly amenable to evil influences which, when first attacked, seem to attract very little notice, but slowly sap the vitality.

(*b*) It is so often forgotten that university education must also consist of organised growth of a good physique. College athletic clubs, if at all, mostly confine their attention to football and cricket in which only a dozen or so take any active interest. But oftentimes they have a tendency to create a batch of professional players. Of course they are also on occasions an object of interest among fellow-students, especially when contesting other teams, thus helping the growth of *esprit de corps* among college students. But so little attention is paid to their primary purpose that students, after a few years of university education, are unfit for any privations of life, and love, ease and comfort.

(*c*) The present system of university education has practically ignored the social and industrial movements that are upheaving India to-day. Satisfied itself with the teaching of those branches of study which have hithero gone by the pretentious name of liberal education the University has paid too much prominence, even in scientific studies, to pure, rather than applied, science. Very little provision actually exists for the teaching of subjects like geology, botany, or biology, though students are supposed to have a choice in selecting their subjects. Important studies in modern life, *viz.*, oriental studies in Hinduism and Islam, agriculture, commerce journalism, art, architecture, tanning, archæology, sanitary, science, metallurgy, mineralogy, and domestic science, have been practically left out of account.

(*d*) The present system of university education is not a gradual process—in other words, the difference between pre-university and university courses is too great and too sudden. There has been too much specialisation of subjects even in the matriculation standard. Under the present regulations a student will learn of Greece and Bactria without having the least knowledge of those places—whether they are birds or beasts. The matriculation standard should always be a general preliminary training for admission into the university course. Specialisation or choice of subjects is not needed at this period. At the same time, it is to be remembered that higher studies in any one subject require knowledge of various other subjects. Under the present regulations students may engage in university studies without any knowledge of history, of geography, or with only a modicum of mathematics —knowledge which is much inferior to even the old matriculation standard. I am strongly of opinion that a pre-university course must impart some training and knowledge in both history and geography, vernacular, English, and mathematics—all compulsory subjects for study—or else students will be at sea when studying higher up. The study of history necessitates a rudimentary knowledge of geography, while no science subject can be divorced from a knowledge of mathematics. The study of higher economics necessitates a strong foundation in the knowledge of at least mathematics, while higher researches in the subject demand some knowledge of physics, chemistry and biology. When it is remembered that the wide choice of subjects is no choice at all, as the choice is limited by the courses of affiliation, the effect of the present regulations can be better imagined than described. I would, therefore, advocate that, in the matriculation standard, all the following subjects should be compulsory, *e.g.*:—

(i) English,
(ii) Mathematics,
(iii) Language,
(iv) Vernacular and
(v) History and geography (general),

HUQUE, M. AZIZUL—*contd.*

while students may be left to choose any one of the following subjects :—
Additional mathematics,
Additional classic,
English history, or
Mechanics.

I would remove the subject of " A Short Account of Administration of British India and of the Progress of India under British Rule " from the matriculation and make it an allied subject with history in the intermediate course when boys begin to think intelligently and to form their ideas; it is only then that this subject should be studied. Any previous study will make it dult and would tend to help pure cramming.

In the intermediate course I would advocate the following courses of study as compulsory :—
(i) English,
(ii) Vernacular,
(iii) Physics and chemistry,
(iv) Logic, and
(v) Any one of the following subjects :—

Arts	Science
Language.	Geography.
History.	Physiology.
Mathematics.	Mathematics
	Botany.
	Zoology.
	Geology.

(*e*) The present university training is defective in so far as too much attention is paid to class work, even in science subjects. The present tutorial system is as bad as class work, as it is invariably the same teaching except that the class is of a smaller number. What is required from university students is creative thought—seeking and searching. Time must be allowed to them to think. Of late there has been a tendency to insist on many class lectures —too many hours a day and too many days in a week. I would lay down that students should attend a minimum of only 60 per cent. class lectures in the intermediate standard, but in the B.A. and M.A. I would make residence and satisfactory work the test of fitness for entrance to the University examinations. In scientific subjects preference should always be given to laboratory work. The number of lectures delivered nowadays in post-graduate classes is simply appalling. In the best interests of post-graduate study, there should be less of class lectures, but more of seminar work in groups, each group to consist of three students to work and read together. Teachers must feel that in the higher university courses the work is mainly of students; the teacher is merely to supplement their work by guidance, indication, and supervision. An amount of freedom should characterise the work of students in the B.A. and M.A. In the lower university courses, and pre-university courses, the work should be mainly of teachers; students are merely to follow masters. In higher university courses teachers should deal with subjects generally, and leave students to read for themselves the inner complexities and details from text-books and periodicals recommended, while in the lower university and pre-university courses teachers should aim at following books, rather than the subject or subjects. This will generate organised thoughts in a systematic way among impressionable minds while, higher up, they should be able to organise thoughts for themselves.

(*f*) University training does not prepare students to think of current Indian and world-problems—political, economic, or otherwise—in a well-guided and well-considered direction, unless they choose to do it for themselves. They are not trained to develop any faculty for taking an interest in, or to make a study of, human affairs. The wonder is that, even then, so many students do take such an interest and develop such faculties which point to the inmate characteristics of an oriental people. Of late

the tendency amongst the authorities is for an academic atmosphere which, like other much-talked-of cant phrases of the world, does little good, but much mischief. Of course, nobody would think of students taking an active interest in the current problems of the day and leaving their ordinary pursuit of study. But they must form their ideas at this stage. And you cannot shut out students of any country from taking an intelligent interest in the current movements and events of the day. An intelligent boy is the best observer. The world begins to take him by storm with its thousand matters of interest. The University cannot satisfy his overflowing heart. He comes to the world to extend his knowledge. Already he has learnt some moral principles of life—the sense of right and wrong, feelings of justice and equality, regard for truth. He measures and contrasts the world with his own notions and ideas, and of all things in the world politics has ever been the greatest human interest of man. If, at this stage, you do not discuss matters with him, help him in the formation of his own ideas and opinions, the result will be that his thoughts will go underground, he will grow erratic, and take his ideas from the ramblings of the blatant. When grown-up he will be faced with the unaccommodating realities of life where he has to form a judgment; when clashed, therefore, with a superior intellect, with the subtleties of his reasoning, he will be an easy victim. The debating clubs of universities should, therefore, discuss current realities, that students may be helped in the formation of their opinions. The more you tighten the more will the spirit revolt and run underground with his attention specially directed. The manliness and freedom of one's opinion would be at a discount, and passive demoralisation will be its consequence.

(*g*) University training is defective in so far as the students work up mostly with no aim before them, save and except that of anyhow securing pass marks and then a comfortable billet. Conscious of the fact that the highest genius, and even the tallest amongst us, are oftentimes to bend low, we are generally not inspired in our student days with an aim that would spur us to a forward spirit. The world has long measured merit by money, and in the circle where students constantly move the differential treatment in money, rank, and seniority between the members of the Indian and Provincial Educational Services have a depressing effect upon the minds and character of students. Seeing that some of the oldest, best, and highest genius among Indians are to sit below raw recruits from European universities of no marked reputation students feel that there is no reward for merit in the Educational Service.

(*h*) The University does not give the least opportunity to those who in after life take to other pursuits than educational service in post-graduate work or further research. A very large majority of students leave their university career after the B.A. degree. But they are not allowed to take any interest in university affairs. University and college libraries are sealed to them. University regulations do not allow them to be registered graduates and thus be members of the University. After ten years, when students are past the prime of life, when they have found their interests and occupations in other human spheres after they have completely forgotten their University and have been out of touch, they are permitted to enter as registered graduates. I submit that all graduates should be permitted to be registered graduates, and some scheme should be devised by which they can pursue independent investigation afterwards.

HUQUE, Kazi IMDADUL.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. It seems to be deficient from the following points of view:—

(*a*) The education given is more theoretical and bookish, than practical and businesslike. We are trained to read, take notes and cram them, pass

examinations, and perhaps think a little; but hardly to *do* anything. It does not unfold the creative power, a power that enables a man to make himself master of a situation. It makes only dreamers, who hardly ever achieve anything in life.

(*b*) Scientific education seems to be inadequate in this University. I do not mean that science is not taught; it is the scientific method that seems to be wanting. This remark applies still more to our school education, which is shaped by the University to a considerable extent. The total absence of practical expressive hand-work in schools accounts for the deadening of the spirit of scientific inquiry in our students, most of whom readily fall into a groove for the rest of their lives.

(*c*) All students are cast into the same mould. There is little scope for specialisation, except in so far as the students are allowed to choose certain subjects in preference to others. They generally select those which are known to be easier to pass in. The subjects studied in the University are soon forgotten; either because they are never required in life, there being hardly any field for the application of any training received, scientific or otherwise; or because they are not learnt in a way to be applicable to life's activities.

(*d*) Teaching is unduly subordinated to examination; so, there are very few who really learn anything from the teaching they receive. In most cases the individual ability in life's activities is acquired through private study, or through contact with the world after leaving the University.

(*e*) Physical, moral, and intellectual development ought to harmonise in university training. Here, there is very little physical training, and most of our university men are poor in physique, being either dyspeptic or short-sighted. Of moral training there is none and students are left to themselves to pick up moral or immoral ideas and habits as best they can. The intellectual training given is, as observed before, purely theoretical; so that the intellect developed scarcely ever manifests itself in life. In fact, the Calcutta University has not yet turned out many great contributors to the world's intellectual advancement. The few great intellects we have amongst us are mostly products of foreign universities.

(*f*) Passing an examination is now entirely dependent upon the result of the final examination. But it should not be so. The career in school or college should also be taken into account; and, in special cases, students may be declared to have passed an examination on their school or college report only.

HUSAIN, The Hon'ble MIAN MUHAMMAD FAZLI, Khan Bahadur.

The existing system does not afford full opportunity to young Indians of ability for obtaining the highest development, and this is due to the following causes :—

(*a*) Curricula are too stiff for about 60 per cent. of the students and not advanced enough for about 40 per cent.

(*b*) Similarly, teachers are, in some colleges, too good for some pupils, and, in the case of good students, do not know their subjects well enough either to inspire enthusiasm and love for their subjects or to afford guidance.

(*c*) Teachers are also hampered in their teaching work on account of students of vastly varying aptitudes being jumbled together and placed at their disposal.

(*d*) There are very few men who can reasonably be said to be specialists in their subjects, and, where such specialists do exist, they command great respect, and their pupils do very well in their subjects.

(*e*) Research studentships are not good enough to support students, and there is no system of fellowships.

The question is one of finance. At present, there are no centres of scholarship in particular subjects, in particular places; and there are no great libraries in several university towns, and, therefore university towns are not particularly attractive to rising scholars, and scholars with established reputations do not find the life or the pay attractive enough to spend the remainder of their lives here. In fact, recruitment to the Indian Educational Service begins at the lowest grade and no scholar with an established reputation can look at it.

HYDARI, M. A. N.—IBRAHIM, Khan Bahadur MUHAMMAD—IMAM, The Hon'ble Justice Sir ALI.

HYDARI, M. A. N.

No; the existing system has not any of the four requisites specified in question 2 for the best university training.

IBRAHIM, Khan Bahadur MUHAMMAD.

No; the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training.

It is deficient in respect of adaptability to the needs and requirements of public life:—

Firstly, because the education imparted does not help students in turning what they learn to practical account in life and so does not create any real interest in the subject or subjects taught in the University;

Secondly, because cramming being encouraged by the system of education and method of teaching (as is evident from the nature of the University questions and the prevalent practice of dictating notes). Students obtaining even the highest university degree are found to be lacking in proper assimilation of the subjects they have learned; and

Thirdly, because ability in the truest sense of the term has been found, on account of excessive encouragement of cramming referred to above, to be a bar to success in a university career, rather than a guarantee.

IMAM, The Hon'ble Justice Sir ALI.

The Indian universities cannot be said to give the best training possible. They were started more with the idea of giving the student a knowledge of what the older universities of England called "humanity", and a theoretical knowledge of the sciences. The first chancellor of the Calcutta University, the late Lord Canning, said so in his convocation speeches when the University was started. Lord Canning expected young men of the wealthier classes to take advantage of the universities, but this hope was not fulfilled. The men who took advantage of the universities belonged to the middle class, not the wealthier class. They took to education as a means to an end—the end being posts in the administration and the professions. That is the class that yet seeks the Universities. Learning is not pursued for itself in the universities—those who seek such learning are actuated by religious motives—and both Hindus and Muhammadans of this class get their education elsewhere. Nor is the oriental learning imparted by the universities such as would fulfil the needs of Hindu and Muhammadan divines. The universities in the very nature of them—as Government institutions—had to be secular. While those who pursue learning in India for objects other than secular are men imbued with deep religious fervour, and from that class our *pandits* and *almas* are yet recruited. The later University of the Punjab has taken up oriental learning of the order that meets the requirements of the *pandit* and *ulma* classes. If the Calcutta University were to enlarge its scope, and to cater for the special needs of this class, it is possible—judging by the experience of the Punjab—to bring in young men of that class also. But I fear this would be too drastic and difficult a change for a university like that of Calcutta which has now been carrying on its beneficent activity for over half a century.

Leaving aside students who seek the way to God in the pursuit of studies and, confining ourselves to mere secular studies alone, I am of opinion that our Indian universities, of which that of Calcutta may be taken as a type, is capable of being improved so as to give its *alumni* of ability full opportunity of obtaining the highest training. The way in which this could be done, so far as I see, could be reached by adopting the following methods:—

(*a*) By importing professors of the highest repute from different European countries to lecture each on his special subject for post-graduate studies.

IMAM, The Hon'ble Justice Sir ALI—*contd.*

(*b*) By sending out young men who had shown special aptitude for subjects to different European countries to the centres of learning there so as to get them into touch with the best men on the subjects, and on the return of these men to India to make them teach their fellow-students what they have acquired outside. This is specially needed in the case of the sciences.

(*c*) By founding well-appointed libraries and laboratories, and encouraging access to them alike to students and teachers.

(*d*) By encouraging the study of the applied sciences so as to make the study of science lucrative.

In this connection, it should never be forgotten that the experience of over a half-century of university training in India has been that most of our students are very poor. And, unless the studies are made to pay, and their results can be calculated in £ *s. d.*, the mere study of the sciences in the abstract can never be popular. The professions and the public services are already crowded and the discontented B. A. cannot find further scope in them; although learning would continue to be pursued by the *Bhadralok* class as that has been their avocation for untold centuries, and the demand can only be satisfied by new fields of a lucrative order being opened up. The army, employment in the Foreign Department, and the many other similar avenues of public employment have been closed to Indians since the advent of the British as the ruling power in India.

(*e*) By creating new "faculties" for the promotion of commerce, manufacture, and agriculture.

Note.—Agriculture of the Western type is not practicable in India. It is too expensive, and land has passed into the hands of very small agriculturists for whom experiments, unless success is guaranteed, are impracticable. Peripatetic lecturers, who may give demonstrations of their teaching in the villages themselves, and not at distant centres where the villagers never go, are necessary. Agricultural graduates of the universities may be encouraged to travel in the interior and give demonstrations of their discoveries in the language that the peasant understands and of a nature that may convince his simple, but tenacious, mind.

For the encouragement of the study of the applied sciences workshops and demonstration theatres should be established. Along with these should be established shops where the material prepared may find a ready sale.

Commercial studies have not been tried in Calcutta, nor in any of the Upper India universities. But it stands to reason that if commerce were taught at the universities in such a way as to make the graduate in commerce tolerably certain of being able to earn livelihood as his compeers in law or medicine do, and set up an independent establishment of his own, that a commerce degree would be as popular as a law degree or a degree in medicine or engineering.

Manufacture on modern lines as carried on in Europe or America is much too expensive for India at the present day. But some such method as that adopted by the Japanese may be successfully attempted in this country as well. With this end in view, the University may train up a body of teachers who may travel about the country and attempt to found a number of cottage industries.

I shall attempt a second answer to this question starting with the assumption that the highest university production is such as is imparted to the graduates of Oxford and Cambridge, and that efforts should be made to compare our Calcutta men with them and see, if at all, in what way they fall short of the English university men. I shall not attempt to compare the two classes of graduates in their mere academic qualifications, but judge them as they have struck me outside the universities in the various walks of life. Naturally, my experience is somewhat better in the case of those men who enter my own profession of law. The universities, I take it, are not so much institutions for imparting knowledge, as institutions to teach one how to learn. In the legal profession the English graduate comes with a mind somewhat better fitted to grasp the various subtleties and the difficulties that stand in the way of his case than his Indian compeer,

IMAM, The Hon'ble Justice Sir ALI—*contd.*—IRFAN, Maulvi MOHAMMAD.

The English graduate takes a wider view of his case and concentrates his forces on the broader outlines, and, in stating his case in court, puts it forward with better perspective than does his Indian compeer, who often crowds his canvas with a wealth of detail that mars the outlines. It is true that the young English graduate is no match for his Indian compeer in wealth of technical knowledge. The Indian graduate can quote sections and reports of cases with much greater facility, but it has been my experience that this wealth of detail is often destructive of the main structure. If one were to indulge in comparisons the Indian graduate's mind is like the great temple at Madura where each niche and icon is perfect in itself, and an object of beauty if examined in detail but with the result that the general outlines are lost and do not make the impression on the mind that they should, while the English graduate's mind has the simplicity of detail of a Greek temple whose general contours and noble proportions captivate the mind of the observer and leave him no room to go into the details.

Taking for granted that my analysis is correct, the reason for this difference seems to me that the Indian graduate reads his books while the English graduate knows the men who have written the books. It is not possible in India, where universities cater for such immense populations, to bring about results that are achieved by universities that cater for such small numbers that, besides the association of the class-room, living social contact between the teacher and the taught is not merely possible, but is almost inevitable. And one always learns more from the man himself than from the phase of mind into which he throws himself when he is writing a book. That not being possible, the next question is how to modify our present system so as to get the best out of the material we have. Some of the methods I have enumerated in the first part of my answer would be useful in this direction as well. But the main difficulty of the Indian university is the comparative poverty of our graduates as compared with those of England. Nor is the damping effect of a foreign domination to be neglected in a consideration of these questions. This domination which has lasted in some parts of India for more than 150 years has stunted and dwarfed our spiritual growth. With its relaxation gradually a higher stature of manhood will be attainable.

The universities of India are not resorted to for the purpose of learning only, but as a means of learning that would bring in money. And, in this direction, besides the professions and posts in the administrations nothing else is to be got. The universities have come to stay with us. And it is necessary so to regulate them as to bring them in harmony with other facts of our social and economic life. A graduate of an Indian university must be, firstly, a man able to earn money in an honourable way. And, for this purpose, technical, agricultural, and commercial education must be taken in hand by the universities side by side with arts, law, medicine, and engineering.

IRFAN, Maulvi MOHAMMAD.

No; the highest training in the true sense of the term includes moral, physical, and intellectual development. The present system of education under the Calcutta University makes no provision for the moral training or the formation of true character of students. In my opinion, due provision should be made for religious instruction. Professors of divinity may be appointed by the University.

Under the present system of university education not sufficient and proper care is taken of the health of students. The course of study is so long that, by the time students graduate, their health is completely broken in the generality of cases. There being a mechanical system of university examination students do not study in order to acquire true knowledge of a subject, but they manage to pass their examinations without even touching the original books, simply through the help of notes and keys, which have overflooded the university market. So I do not think that, under the present system of the University, the intellect of the students is as sufficiently developed as it ought to be.

Another noticeable defect of the present system of university education is that it does not impart sufficient technical education. Therefore, students do not find the means of

earning their livelihood by an independent profession. Owing to this defect students of the present University always seek after service under Government, for which it is impossible to provide all of them with posts.

IRONS, Miss M. V.

No; the existing system of university education affords little opportunity of obtaining the highest training.

The chief defect of the existing system is the entire lack of provision for tutorial assistance to students. At present, the teacher does not find time to meet individual students, and most of the students do not venture to approach their teachers. There are too many instances of students passing through all the classes of a college without being personally known to a single teacher. The present system imposes undue physical and mental strain on students. They attend many lectures, but are not provided with any tutorial help. The course for the B.A. is too long, for the majority of students do not find it possible to read thoroughly and assimilate what they read within the time at their disposal, on account of this, and because the examination is so conducted as to require, in many cases, only a superficial knowledge of the subjects taken, students have recourse to cramming.

The remedy of these defects would be :—

(*a*) reduction of the course of study,
(*b*) reduction of the number of lectures,
(*c*) provision for tutorial assistance to students, and
(*d*) a change in the present method of examination, that is, questions should be framed so as to require proper assimilation on the part of candidates.

ISMAIL, Khan Bahadur MOHAMMAD.

The existing system of education imparted by the Calcutta University generally does not afford to young Indians of ability full opportunity of obtaining the highest training.

The main defects are the following :—

(*a*) The University examination is a great strain upon the faculties of students, both mental and physical. The majority of graduates appear to be too much exhausted for any higher attainments. The system of examination is bad.
(*b*) It does not afford opportunity of free intercourse between teachers and students.
(*c*) No attention is paid to the moral training of students.
(*d*) To pass the examination being the ultimate goal, no attention is paid to real training.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

As regards the first question I am clearly of opinion that the existing system of university education in India does not afford to young Indians full opportunity of obtaining the highest training. There are various causes for this, and I shall only refer to some of them here. The chief cause lies in the bad selection of professors from England. They have, of course, done excellent work in certain directions and, as one who sat at the feet of some of them, I should not be understood as unduly depreciating their value. But there can be no doubt that the majority of them would not be called professors in England. They come to India with a limited knowledge, and it is no wonder that their mental vision is equally limited. The result has been that they have not been able to exercise on the rising generation of

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI—*contd.*—JALIL, ABDUL.

Indians any great intellectual influence. Their influence upon the Indian professors who are associated with them has been equally unsatisfactory. The expansion of the Indian intellect is largely dependent upon its surroundings. When working to the stimulus of a congenial intellectual society, and in an atmosphere which gives free scope for the exercise of intellectual faculties, Indian professors have almost always reached the highest standard of attainment. On the other hand, when placed under professors or officers of an inferior type who lack the passion for learning or the capacity for research they have shown deterioration. I do not know whether this is not the case all the world over, but there is little doubt that Indians adjust themselves to their environment very quickly. The consequence has been that the Indian professor has been stunted in his growth. So the student has not benefited, and the Indian assistant has not improved. In these circumstances, it is no wonder that the full benefit of university training has not been attained by Indian students. A strenuous and serious attempt should be made to remedy this evil. Then alone will the intellectual tone of Indian universities be raised and the foundations of a true university education laid in this country. It may be said that the Indian exchequer cannot afford the expenditure necessary to attract first-rate men; but, in my opinion, any money spent on obtaining the services of men of the highest calibre for the professional line from England would be a thousand times repaid by the influence they will be able to exercise upon students, and by the high ideals of culture they will be able to set up around them. Of course, men of this type can be brought in only in exceptional cases. In regard to the generality of appointments an attempt should be made to select promising Indian graduates and send them to English universities for higher training on condition that when they come back they should serve in the Educational Service. I have no manner of doubt that they would return better equipped for the profession of teaching than those now selected direct from English universities. No foreigner, however eminent, can succeed so well as an Indian in the interpretation and criticism of Eastern things and the promotion of the highest learning in India.

JALIL, ABDUL.

No; the existing system is deficient in the following main respects:—

(*a*) The secondary education as provided at present in Indian schools is undesirably theoretical, rather than practical. It destroys the investigating power of a student, makes cramming his second nature, and imparts to him very little general knowledge.

(*b*) The drawbacks in the school education, noted above, are in no way removed in the college education, the rigidity of the course of studies leaving no liberty to the teacher of going out of the course prescribed by the University. In fact, the teaching imparted under the existing system does not inspire a student to a high and intelligent study of the subject in which he may be especially interested.

(*c*) Some of the Indian universities by offering an honours course for a degree do, to a certain extent, provide opportunities of obtaining the higher learning, but not higher training. A student taking up an honours course is, after all, a product of our schools and has environment practically of the same nature as are available to an ordinary degree student and is under the same system of education as others of his comrades.

(*d*) As ordinarily everywhere else, but more so under the special conditions of society in India, the ablest brains come from the poor classes, which consideration requires the provision of a large number of scholarships and stipends at every stage of education for the ultimate prosecution of higher studies with zeal and interest.

(*e*) A large amount of choice is not, at present, offered to a student in selecting subjects of study for an examination; nor are the subjects so varied and sub-divided as may well adapt themselves to particular students.

JENKINS, WALTER A.

The defects of the system which handicap the student.

(*a*) Inefficiency and subordination of pre-university teaching to examination purposes and an inadequate knowledge of English upon entering college.

(*b*) In science the student is starting from the very beginning of his subject and it is all important that he should be thoroughly well grounded in elementary principles before proceeding to higher work. This is practically prohibited by the difficulty experienced in following lectures given in a foreign tongue and the fact that more often than not he is taught by the most junior and inexperienced members of the staff. There exists in Bengal a peculiar kind of belief that it is degrading to teach elementary students and that any kind of lecturing will do for junior students. The contrary is of course true and as the intermediate classes are more in the nature of schoolroom classes than students capable of following lectures, it is vitally important that those concerned with the teaching of elementary students should be as efficient in the art of instructing as they are well versed in their subjects. Advanced and mature students *may* assimilate knowledge in spite of the defects of their lecturer, elementary students cannot.

(*c*) The arrangement of the work is not such as to promote efficiency. In the first place, the student has far too many lectures to attend. The average number per day is, I believe, four while it often happens that a student has five or even six successive lectures. The result is that in the hot weather particularly, the student attends merely to obtain his percentage of attendances. He is not in a sufficiently alert mental condition to benefit by what is said or, as often happens, read. It is not an uncommon experience to enter the lecture room at 2-35 and find not one but several students who have fallen asleep in the interval between two lectures.

There are two remedies for this—one is an alteration of the times of lectures during the hot weather and the second and more important is the diminution in the number of lectures. This latter will automatically take place if the present system of lecturing is abolished. At present lectures are in the nature of an exhaustive treatise of elementary facts most of which are self-obvious and which can easily be understood by reading. Lectures ought to be the elucidation of difficult parts and the supplementing of text books rather than the "spoon-feeding" method which characterises them at present. Students are not taught to think. They ought to be made to grapple with difficulties themselves instead of having everything explained to them.

(*d*) The broken kind of term owing to holidays given for religious festivals and in honour of visits paid to the college by distinguished people. These mid-term holidays are so frequent as to seriously prejudice either successful teaching or learning. I would suggest that if the establishment of a real university is desired then the students be treated as under-graduates and not as schoolboys. It is surely undignified to see a body of under-graduates marching paper in hand to some high official to beg three or four days holiday. I would suggest that in order to make the term as continuous and coherent as possible the number of mid-term holdays be cut down to a minimum and that there be a considerable reduction even of "religious festival" holidays.

(*e*) The admission of a large number of students to college who are mentally unfit to pursue a reasonably high university course keeps the standard so low as to seriously handicap the able student. Unfortunately the system here seems to be that of adjusting the standard of examinations to suit the knowledge of the student rather than that of educating the student to a reasonably high level. The result is that only the most elementary parts of the subject (I speak here specially of physics) are taken and an able student going to

another university or starting research work finds himself deceived as to the extent of the knowledge he has a right to suppose himself to know. In physics such subjects as "X" rays, radio-activity, conduction of electricity through gas, magneto optics, electro-optics, spectral series and modern views of the structure of matter are entirely left alone as far as the B.Sc. and B.Sc. honours work is concerned. The place they occupy in what is called post-graduate work is entirely incommensurate with their importance relative to other branches of physics.

(*f*) The students are allowed to specialise before they are prepared for it. In science particularly, students ought not to be allowed to specialise before they have obtained a thorough grounding in all branches of their own subject and at least one subject allied to their own.

For example, I would suggest that post-graduate students be required to take in addition to their own subject at least one allied subject as far as the honours standard. The ordinary degree standard is of little use to anyone.

If the B.A. and B.Sc. standards are raised to such a level as to ensure those who pass being fit for real post-graduate worth then research work and specialisation may be possible after graduation. In connection with this I would suggest that when non-honours students take up post-graduate work they be required to attend lectures one year longer than honours students.

JENNINGS, The Hon'ble Mr. J. G.

I consider the radical defect of Indian university education, speaking generally, to be the want of personal tuition. My experience is chiefly on the arts side, and in the better colleges at any rate the evil seems to be less prevalent on the science side where a certain amount of practical laboratory work is insisted on. On the arts side —I think the same holds good of the law teaching—the general tendency is to lecture too much and to train too little. Even if the students follow the lectures—which in fact they frequently fail to do, whether from want of ability or want of adequate preparation, or owing to the lack of interest of what is said—it is entirely wrong in principle that students should be required merely to listen and never, or very rarely, be called upon to exert themselves except in the more or less barren exercise of answering university or college examination papers. Until there is more tutorial work done in Indian colleges, more essay writing, some systematic attempt at exercising the creative side of the student's intellect, our university education can never offer any satisfactory mental training. Moreover the present over-lecturing not only spends time which might better be devoted to guiding the intellectual efforts of the students, but it leads to a grave degeneration in the work of the lecturers. The quality of lectures delivered daily on a subject for the greater part of the year must necessarily be low. They become jejune, uninteresting, of little value even for examination purposes and of less from the point of view of scholarship. With large classes such as are generally found, they cannot have that utility which routine work may have in the comparatively small classes to be found in schools, in which the members of the class can be thoroughly questioned and called upon to take their part in the intellectual gymnastics of the teacher. With fewer lectures to deliver the lecturer might be expected to aim at delivering lectures of a more general and original nature, instead of reproducing matter already found in every text-book. The present lecture system leaves the students for the most part mentally torpid, and intellectual training and development cannot be had in this way. The "tutorial system" may become only a phrase, and I have known it fail even when introduced with some care by the college authorities, for one needs not only the system but the tutor with some gifts for his work, but I think that in its careful introduction into our colleges lies the hope of improvement. My experience is that there is plenty of ability, and that it frequently responds well when called upon to exercise itself but students who are called upon to do little or nothing but listen and read and answer examination questions naturally remain intellectually undeveloped.

JEVONS, H. STANLEY—JONES, C. E. W.

JEVONS, H. STANLEY.

The existing system does not give young Indians full opportunity to get the training either in point of quality or of diversity. In my opinion the existing system is deficient in three main respects:—

(*a*) The deadening effect of examinations by universities covering a number of affiliated colleges over a wide area, so that examining is mechanical, being necessarily conducted without relation to the teaching in any particular college. The independent growth of particular colleges along special lines, or to a higher standard, is retarded by the necessity of keeping the standard of examinations down to the level of weakest colleges in the University.

(*b*) The courses of study are not sufficiently related to the avocations which are, or should be, open to successful students after graduation. The arts course does not lead directly to anything except certain branches of Government service and to openings in teaching in colleges and secondary schools. During their first two years all students should take one of the arts or science courses (somewhat different from the present ones) and during the third and fourth years they should join one of the professional colleges which are or ought to be attached to the University, such as the law, medical, engineering (civil electrical and mechanical) colleges, or colleges of commerce, of business administration (including railways), of chemical technology, of social sciences, of agriculture and forestry. These would all lead specifically to definite careers. There would also be colleges of arts, of science and of philosophy, leading to academic or teaching careers; or to be taken before passing into the professional college.

(*c*) The character of the teaching requires to be greatly altered so that in all subjects the student is given practical tasks to perform such as the student of natural science gets. Writing essays is not sufficient, though these are very important later, when the student by successfully accomplishing practical work has learnt how knowledge is acquired and how constructive work is initiated and completed. I cannot over-emphasise the importance of such work in giving the student initiative and self-confidence; and also a due appreciation of the limitations of his own powers, combined with a stimulus to improve himself for what he can now realise as a definite object transcending mere examinations. Of course, such methods of teaching will require many more assistants to the professors, who must themselves be trained; but I am certain that, economically speaking, expenditure for such thorough teaching will be extremely remunerative to the country as a whole. If teaching of this character were properly given in the secondary schools there would be no great cost in carrying it on to a higher standard in the university colleges. At present the secondary schools are so poor that nine-tenths of the students who come to the university have already been rendered incapable of assimilating any true education of the kind I have indicated, except with a quite inordinate expenditure of time on each individual by the college professors. I am convinced it is not a case of original stupidity or incompetence of the faculties; but that the school system actually has a deadening effect, and is doing almost as much harm as good.

JONES, C. E. W.

Under the system of affiliating universities which at present prevails in India, it is impossible for the majority of young Indians to obtain the highest training. The bulk of the students attend mofussil colleges which for the most part do not possess intellectual or material resources adequate for the functions they are supposed to perform. They are generally insufficiently equipped in respect of buildings, libraries and laboratories and the provision which they make for the social and physical activities of the student is for the most part insignificant. The majority of the teachers are men of inferior quali-

JONES, C. E. W.—*contd.*—JONES, T. CUTHBERTSON—KAR, SITES CHANDRA.

fications. The classes are generally too large, and little or no attempt is made by the teachers to give personal tuition or exercise personal supervision over the work of the students.

The universities have recently made efforts to improve the condition of the mofussil colleges by inspection and by insisting upon certain requirements in regard to buildings, size of classes, etc. But, as far as my own experience goes, no real attempt has been made to raise the standard of teaching or to ensure that close supervision of the work of the students which is essential in any well devised scheme of university education.

The reason for this attitude on the part of the universities is obvious. The mofussil colleges are, for financial reasons, unable to carry out the improvements which are recognised as desirable, and the universities are compelled to take a lenient view of their shortcomings. As long as the affiliating system lasts, no real improvement in university education can be expected.

JONES, T. CUTHBERTSON.

Assuming that the object of university training is self-realisation—the development and bringing out in each individual of his mental, moral, physical and spiritual powers, I do not think it can be said with truth that the existing system of university education in India has succeeded. The existing system while attracting crowds of students has failed to attract either from England or in India the best men as teachers. It has multiplied text books and ambitious courses of study without encouraging thought, or developing in many cases the capacity to understand without assistance an ordinary English book, or the power to express oneself correctly in that language. Students neglecting their own language and literature have too frequently succeeded in securing a mere travesty of western education, which while adding perhaps to their self-esteem has not proportionately increased their usefulness to themselves or to their country.

Owing to causes not always preventable under present circumstances, the University does not exercise sufficient authority over its students out of college hours, and has not been able to insist upon physical training, to remove defects in personal habits, or to impart moral and religious training. This comparative failure is partly due to causes for which the University cannot be held responsible, such as the necessity imposed upon students of absorbing alien ideas in an alien tongue, the strain which political excitement has sometimes placed upon the relations between students and the European staff, and the absence from the homes of many of the students of the influence of educated and cultivated women.

But something could be done to improve the present state of things by better co-ordination and correlation of effort and ability in teaching, by improving the prospects of university teachers, by providing better laboratories and libraries, by insisting upon residence under proper supervision as a necessary condition of university study, by the substitution of syllabuses for text books whenever possible (*e.g.*, in economics and philosophy) by the abolition of compulsory English literature as distinguished from a knowledge of the English language, by the provision of religious teaching according to the various creeds professed by Indian students, by tutorial supervision over the dress, manners and morals of individual students, and last but not least, by the elimination of the unfit, of those who ought not to and in other countries do not attend universities, by abolishing university tests as a necessary qualification for Government service.

KAR, SITES CHANDRA.

Yes, except in those branches of knowledge where practical work is of supreme importance; there the existing system would appear to be defective, generally. I have in view the departments of medicine and engineering in particular. Practical training there given appears to be generally inferior to the kind obtainable in European institutions. Opportunities too of acquiring first-hand experience in workshops or hospitals are lacking, and this points to a difficulty which can be removed only in course of time.

KARIM, Maulvi ABDUL—KARVE, D. K.—KHAN, ABUL HASHEM—KHAN, MOHAMED HABIBUR RAHMAN, SHIRWANI.

KARIM, Maulvi ABDUL.

The existing system of university examination does not afford to young Indians of ability full opportunity of obtaining the highest training. The reason is not far to seek. There is not sufficient scope for specialisation in particular subjects for which a student has special aptitude. Up to the B.A. standard a student has to study a number of subjects even if he has no special aptitude or predilection for them. Thus the multiplicity of subjects stands in the way of concentration of attention and energies on particular subjects. The student learns something of several things, but he cannot make himself master of any one of them. Besides, such a large ground has to be gone over in almost every subject that it is difficult to acquire a thorough knowledge of it within the allotted time. After the matriculation examination a student should have the option of specialising in a few subjects for which he may have special aptitude. He should further have the option of studying only those portions of a subject of which he may be able to acquire a thorough knowledge. For example, if instead of learning the whole of the history of India or of any other country, a student has to study a particular period, he may have time for original research and investigation.

Examinations also stand in the way of obtaining the highest training in a subject. Both the teachers and the taught care more for success at the examination than for the acquisition of knowledge, and devote more attention to what helps in passing the examination than to what contributes to sound knowledge.

KARVE, D. K.

It goes without saying that the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. It is for this reason that they have to go away to complete their education to the western centres of learning. In the first place, examinations loom largely before the eyes of the students. Again, there is a peculiar rigidity and stringency in our examinations; very little choice of subjects is allowed to students; greater stress is laid upon the study of certain text-books on a subject rather than a wide knowledge and study of the subject itself.

KHAN, ABUL HASHEM.

Highest training of men will, to my mind, imply the all round development of the whole being—the intellect, the feeling and the will. The existing system of university education does not, in my opinion, afford full opportunity to this end.

It confines attention almost exclusively to the intellect and does little to develop the feeling and the will.

It makes a disproportionately large demand upon the memory and does not sufficiently cultivate the powers of initiative and judgment. It fails to inspire its students with a pure love for knowledge and truth.

It has set up no new ideal of individual or national life recognised and welcomed by the people of the country.

KHAN, MOHAMED HABIBUR RAHMAN, SHIRWANI.

No.

(*a*) There should be a more intimate intercourse between the teacher and the taught which being based on real respect for the teacher's ability would create in the mind of the student a genuine desire to follow the intellectual activities of the teacher.

(*b*) Examinations have become mere passports to Government service.

KHAN, MOHAMED HABIBUR RAHMAN, SHIRWANI—*contd*—KHASTGIR, KARUNAMAY.

(c) There is no healthy social life in our universities as they exist to-day. The Indian student does not look back with pleasure on the days he has spent in the university.

KHASTGIR, KARUNAMAY.

University education, as it obtains in Bengal at present, fails to produce the desired effect on the young men of ability and thus fails to impart the highest training to the young minds. Considered from the intellectual point of view, a student has to suffer very great disadvantages under the existing system. While in school, he has to learn all the subjects except the vernacular and the classical language in English. Much of their time, which could have been better employed in learning different subjects in their vernacular with greater ease and freedom, is spent in committing to memory what they think to be of importance for purposes of examination. This system of compelling young students to learn every thing through the medium of English serves to deaden the mental faculties of young minds, inasmuch as it leaves no scope for independent thinking and expression of thoughts in their own words in vernacular. Moreover, the method of teaching English to young Indian students in the secondary schools is very unsatisfactory. Most of the teachers in the secondary schools of Bengal have received no training. Consequently, they are not fit to teach a foreign language to the young students in the best way possible. The result has been that most of the students, when they finish their school education and enter the university, have a poor knowledge of English. It is also significant that the system of giving tutorial assistance to the students in the matter of learning English is scarcely found in the secondary schools of Bengal. Another defect in the existing system is due to the university regulations allowing specialisation in some subjects even in the matriculation standard. The effect of too early specialisation has been very disastrous to the general education of the students. Under the present system, a student may secure the highest distinction of the university in his special subject without having to learn anything of history, geography or elementary science. In my opinion, suitable courses of studies in these subjects ought to be introduced into the curricula of the matriculation and intermediate examinations, so that a student, before specialising in a particular subject, may possess a fair and all-round general education.

Then, again, even in the case of those students who specialise in any particular subject at a higher stage of their university career, it is found that they, in most cases, show no capacity for original thinking. This state of things is mainly due to the fact that the students, when they undertake to learn any subject, learn it with the sole object of obtaining high distinctions in the university examinations. They attach very great importance to successes in the several university examinations, which are regarded as passports for admission to professions and public services. With the object of securing distinctions in the examinations, the students read a fixed number of text-books or rather some portions of text-books—portions which are likely to be set in examinations, and this type of intellectual slavery which is popularly known as "cramming" stifles the growth of original thinking in the minds of students and when they come into the actual field of work, they make a poor show of themselves by reason of their not having any power of imagination and original thinking. Moreover, the low standard, required to be attained in some of the subjects—say, for instance, mathematics—for a first class degree in the Master of Arts examination, *viz.*, 50 per cent., has caused a great depreciation in the value of the degree and consequently in the attainments of the recipient of the degree. During his post-graduate career, a student has, very often, to shift for himself, without having any opportunity of coming into direct contact with those teachers in his subject who are capable of directing him to do the work, which he is exactly capable of doing. Such tutorial assistance at the beginning of the career of one who intends to do any higher original work in any subject for the purpose of getting the highest training in his subject, is indispensably required and in the absence of such tutorial guidance, many promising students are compelled to divert their energies to other spheres of activity.

KHASTGIR, KARUNAMAY—*contd.*—KO, TAW SEIN—KUNDU, Rai BEJOY NARAYAN, Bahadur —KUNDU, PURNACHANDRA.

Considered from the moral point of view, the education, that is imparted under the existing system, is decried as "godless education." On account of the paucity of residential accommodation in the schools and colleges, the students get no opportunity of coming under the moral influence of the teachers. The teachers, rarely, get opportunities of mixing with the students in a homely manner and of exerting a healthy influence upon the character of the students.

Lastly, considered from the physical point of view, the present system of giving theoretical university education to the students for enabling them to enter the public services or the professions has caused great deterioration in the physique of the students. The main object of university education, now-a-days, being the obtaining of university degrees, the students attach so much importance to the university degrees that they obtain them at the cost of their health.

KO, TAW SEIN.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training. Under the existing system, the memory is trained at the expense of judgment. Young Indians are deficient in reasoning powers, and cannot easily distinguish the practicable from the impracticable. Their curriculum is over-burdened, and there is little time left for general reading or wide culture. More depth is required than breadth; and it will improve matters considerably if candidates are allowed to pass in two or three subjects at a time, as at the London Bar and Edinburgh University. At present, all the subjects prescribed for an examination have to be passed within the space of a week; and the excitement and tension caused to the mind and the overloading of the memory are injurious to the highly-strung and not over-strong constitution of young Indians.

KUNDU, Rai BEJOY NARAYAN, Bahadur.

I am of opinion that the present system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. The existing system is deficient in the following main respects:—

(*a*) The present system does not encourage commercial, agricultural and industrial training.

(*b*) The multiplicity of subjects prescribed by the University prevents students from receiving a real education so that after finishing their academical career they are found fit for no business whatsoever and are obliged to take some sort of service (the majority in the clerical line) or to appear in the law examination; consequently these lines are getting overcrowded.

(*c*) As the University does not afford free scope to the talents of the really able students, they have to go to foreign countries to complete their education which few can afford.

(*d*) The present system does not provide sufficiently for the physical, moral and religious improvement of students.

(*e*) Travelling plays an important part in education, but it has no place under the present system.

KUNDU, PURNACHANDRA.

University education (even in non-technical subjects) is the only entrance to a professional career or service under Government. The vast majority of students do not care much for learning and intellectual progress; their aim is to pass examinations. Prospects of earning a decent living serve as incentives to university education. Collegiate

KUNDU, PURNACHANDRA—*contd.*

education has been spreading in Bengal mainly for this reason. Learning for its own sake is an ideal not expected from the majority of students. But the system of university education should be such that the students who come under its influence (though with a narrow and selfish aim, and not for real education) are made to undergo a training which will make them intellectually fit for the life they will have to lead in future. Whatever may be the motive of a student who comes into the University, when once he has come, the system of university education should do him permanent good and make him a cultured, self-reliant and all-round educated man. The existing system is, unfortunately, so very defective that it affords even students of ability—not to speak of the mediocres —very little opportunity of high training.

The existing system is defective on account of the following reasons:—

(*a*) The curriculum of the University for the different examinations, and specially for the under-graduate examinations, is defective. It aims at *too early specialisation* and has made the Matriculation standard such that it does not in any way equip the student for collegiate education. Much of the work done in colleges ought to have been finished in schools (*vide* my reply to question 8). Again, the existing curriculum is such that an arts student can go through the whole university course without learning the rudiments of hygiene, geography and science while a science student may complete his university training without knowing the rudiments of Indian history, Indian economics or other branches of social science. Such a system of training produces narrowness of vision and makes education incomplete. (*Vide* my reply to question 13.)

(*b*) The system of examination, as at present prevailing, unavoidably favours cramming and makes teaching subordinate to examination. *Neither the standard nor the type of questions* asked in a particular examination varies and an intelligent student can generally foresee what sort of questions are likely to be set. The highest ingenuity and best devices are directed towards this end and they generally succeed. This favours cramming and accounts for the abnormal sale of notes and model questions and the high percentage of passes in the university examinations, though most of the passed students do not attain the standard of knowledge supposed to be required by the University. The best students are those who can get up the likely questions and answer them satisfactorily.

As the primary object of the majority of students is to pass the examination and as they find that the method of examination is convenient for them to attain their end by cramming, they attend the college course simply to keep the percentage of attendance at lectures required by the regulations. They prefer that lecturer who gives systematic notes and points out "important" questions. To avoid the risk of unpopularity and hence inefficiency, even an able lecturer allows his lectures to degenerate into coaching work. To meet the demands of the vast majority of students, he has to sacrifice the intellectual development of the earnest and sincere students of superior abilities who otherwise might have had the best possible training (*vide* my replies to questions 9, 10).

(*c*) The *teaching* imparted in colleges cannot be quite satisfactory under the existing circumstances because:—

(i) Of the facts mentioned in (*a*) and (*b*) above.

(ii) The number of first-rate teachers available at present is few; many colleges are financially incapable of maintaining a first-class staff of teachers and the University is also not very particular about this point so long as the teacher is an M.A. or M.Sc.

(iii) The number of lectures to be attended by students under the existing regulations is so high that it leaves very little time for systematic work in the library or laboratory.

(iv) The proportion of teachers to students is so very low in many colleges (and it is allowed to be so by the University) that anything like personal contact

between the teacher and the student—so very essential for the benefit of the latter—becomes impossible.

(v) Necessary money is not available for the establishment of fully-equipped libraries and laboratories in most of the colleges.

(*d*) The *medium of instruction* in all subjects being English in which students are generally deficient, proper training and all-round progress are hampered.

Firstly, the students find it difficult to follow the lectures intelligently and hence cannot enter into the spirit of the subject. This leads to unintelligent and haphazard work at home and cramming at the time of examination.

Secondly, the time they possess for private study is usurped by efforts for learning English and little time is left for the systematic study of other subjects, and the study of magazines and journals to which they are referred becomes impossible. The power of independent work, original thinking and wide study which the abler students do possess is crippled for want of opportunity beyond any chance of revival. (*Vide* my reply to question 11.)

It is a matter of congratulation that even in spite of these drawbacks in our system of university education, some young men are coming out every year—though their number is very few—who have been doing excellent work in fields of research, in the different professions and in Government and other services. Had the system been better we would have had a more abundant flow of such highly-trained young men.

LAHIRI, BECHARAM.

The present education is too much confined to book learning. The broader outlook of life, the affairs of mankind have no place in the existing system. Hence the present system does not afford full opportunity of obtaining the highest training.

LAHIRI, GOPAL CHANDRA.

The existing system of university education does not afford Indian youths of ability full opportunity to obtain the highest training. It enables its alumni only to pass examinations and obtain degrees necessary to qualify themselves for service or the legal, medical or engineering professions. The object in view is ordinary, I may say, mercenary. The training imparted, therefore, is also of the same nature. It does not call forth the best exertions and faculties of either the teachers or the taught. There is no scope for independent exertion and the attainment of knowledge.

The highest grades of public service being generally beyond the reach of Indians, they do not strive to get the best out of this defective training. Knowledge gathered in these circumstances is, therefore, far from thorough.

The post-graduate studies afford opportunity to a small number of students to attain, to some extent, higher scholarship in some subjects of learning. But the period of study is not sufficiently long and the scholarships they enjoy are not such as to induce them to stick to their research work for a sufficiently long time, not to speak of their whole lives.

The prospects of these students are not bright. They do not obtain the same dignity or emolument that a European scholar of the same qualification receives in India. This exercises a galling and deterrent effect upon their energies. For example, the division of the Education Service into Indian and Provincial Services may be cited. The first is almost entirely reserved for European professors. This lowers the Indian professors in the estimation of their pupils as well as of their society, and naturally serves as a damper upon their spirit and efforts.

If the post-graduate students were given scholarships ranging between Rs. 100 and Rs. 300 a month in large numbers, and their period of studies extended to at least seven years, with the Education Service open to them, in all its grades, scholars of superior merit and erudition might arise, and professors of colleges might be recruited from them and from them alone.

Then the present system of university training is again defective inasmuch as it is almost altogether dissevered from moral and physical training. It fails, therefore, to build up whole and healthy men.

LAHIRY, RANOJIT CHANDRA.

It cannot be said that the existing system affords full opportunity. The latest up-to-date discoveries in the physical sciences are almost beyond the reach of students. There is very little opportunity for original research. Good laboratories with arrangements for original research and with up-to-date apparatus are essentially necessary. The training should not be expensive to the students.

As for physical and moral training there is almost no opportunity of obtaining any in the existing system. This training must be attempted on Indian ideals. Strict discipline of the body and mind was the aim of ancient Brahmacharya Asram. This ancient system may not be practicable now. Its spirit may be followed as far as possible in model residential institutions.

LANGLEY, G. H.

University education in Bengal seems to be based on the assumption that education consists in furnishing the mind with information, and not developing its powers. All students receive far too many lectures. Even those taking honours attend five or six lectures a day, and students expect to get in lectures, notes on their subjects in a form suitable for examination purposes.

While working for degrees very few students acquire the capacity of reading for themselves. The majority are content with the books of notes which are compiled on their respective subjects.

Examinations are too often merely memory tests. Answers to examination questions almost invariably show slavish subservience to notes which have been memorized, and in many cases teaching is subordinated to examinations.

There is very little true corporate life in colleges.

LATIF, SYED ABDUL, Khan Bahadur.

I do not think that the existing system of university education affords full opportunity of obtaining the highest training. The system of Indian education generally has been at fault, inasmuch that the spirit of research has not hitherto been fostered, too much importance having been attached to examinations. Of late years, no doubt, the Calcutta University has given an impetus to this spirit of research in the different departments of learning, but it is difficult to develope this properly as long as the original mould in which the University is cast is not thoroughly changed.

There should be research institutes started under the auspices of the University for all the important branches of learning, and specialists from different parts of the world attracted and placed in charge of them, so that young men may learn the best of everything in their home university. In order to encourage them, it is necessary that, when fully trained, they should have the same status in the educational service as men recruited from, or trained in, Europe. If this policy be continued, the Indian universities will produce a sufficient number of men of the highest culture and able to take charge of the education of the country. The treatment which some of the best type of Indian professors, distinguished for their original researches and learning, have received, under the Education Department, has been a great source of discouragement. For this, however, the authorities of the Calcutta University are not to blame, though it must be stated that they could have specially brought the anomalous state of things to the notice of Government.

The university system should be so moulded as to give ample scope for the training of young men in all departments of learning which may be of use to them in

practical life. Knowledge is ordinarily pursued not so much for its own sake as for the value it will have in practical life. The different departments which a young man generally finds open to himself for the earning of his bread are :—

(i) Law.
(ii) Medicine.
(iii) Public Service and administration.
(iv) Agriculture.
(v) Commerce.
(vi) Industry.
(vii) Engineering.

Arrangements exist at present for giving instruction in law, medicine, and engineering, and general culture (from which men are recruited for the different branches of public administration). The legal profession and public administration are fully cramped, and the supply is greater than the demand. The existing arrangements for the training of young men in medicine and agriculture are not very satisfactory, inasmuch as there is not a sufficient number of colleges to impart instruction to the comparatively large number of persons that seek instruction in those subjects. The University again has no arrangements for giving instructions in agriculture, commerce and industry.

LAW, The Hon'ble Rajah RESHEE CASE.

No, except in pure arts and science, but no opportunities for training in agriculture, commerce and technology.

The existing system is deficient in the absence of its "modern side."

LUCAS, Rev. E. D.

My answer is *no*. The present system is too rigid and centralised to afford room for spontaneous and healthy indigenous growth. The students work to *pass* examinations and too many teachers aim at the same goal. A process of gradual relaxation of central control together with the building up of a few very efficiently maintained *teaching universities* as pace-setters is a solution of the problem that appeals to me.

MAHALANOBIS, PRASANTA CHANDRA.

In the existing system there is some lack of organic "feeding" from the "primary" and secondary stages, this is due to the strongly centralised university machinery. In Bengal the hierarchy of intellect does not correspond to the hierarchy of wealth and most of our more intelligent students are drawn from the poorer middle-class families. With us a prohibitive cost of higher education would be much more harmful in its negative selectional effects than is ever possible in the west, where the economic position corresponds much more closely to the culture status.

At the present time the cost of education in Calcutta has already reached a level beyond the means of the majority of our *bhadralok* class, the very class for whom such an education is absolutely obligatory. From my own personal experiences as a *student* of the Presidency College (1908-13) I would say that more than half of our students find it very difficult to make both ends meet, and I should put down a fifth to be actually living below the poverty line, *i.e.*, receiving help in money or kind from private individuals.

(*a*) A more extensive system of Government scholarships or stipends, etc., may to some extent relieve the present distress. But in order to be effective there should be considerable local decentralisation. Some power of granting scholarships and other kinds of monetary help may be delegated to local

"mixed" committees composed of officials and non-officials. But Government scholarships can at best prove only a partial remedy.

A far better way of course would be to make education free at State institutions as is the case in America.

(*b*) Most of our students find it necessary to earn at least a part of their educational expenses by private tuition and other miscellaneous clerical work. It is highly desirable that the University should do something for the better organisation of this part-time work of students. An Appointments Board run on *American* lines should be useful.

In addition some form of educational organisation to utilise this vast amount of student-resources may be built up. A considerable number of our abler post-graduate students may be utilised as part-time tutors in a regular organised fashion in our colleges. At Harvard and other American universities this plan seems to have proved quite successful.

University extension work if properly organised would give ample opportunities for vacation work by the students. In Bengal owing to the urgent need for rapid educational progress, there is no reason why the University should *not* itself participate in the organisations of evening schools, morning schools (which may sometimes be more convenient in our climate), vacation schools and working men's schools and other such educational work.

In addition to relieving the actual economic distress among our student community, such organisations cannot fail to have the greatest social and educational value. A well-organised student-apprenticeship in teaching would go a long way in solving the urgent problem of an adequate supply of trained teachers. Again such well-disciplined participation in educational work would lead to a real, intense and significant preparation for life for the great majority of students. In this connection the American experience of organised student self-help is interesting as being wholly satisfactory.

[*E.g.*, Chapter on Self-help in "American Universities", p. 42. American Board of Education, 1915.]

The *academic deficiencies* which hamper training of the highest kind like the bad effect of examinations, etc., will be discussed elsewhere.

In Bengal the material resources available are wholly inadequate. The Calcutta University alone provides for the education of roughly a population of 103,000,000, while in Scotland there are *four* universities for a population of 4,900,000. It would require more than **eighty** additional universities to bring both countries in line. Too much stress cannot be laid on the urgent need of increased educational grants.

MAHASAI, KUMAR KSHITINDRADEB RAI.

Can it be asserted with confidence that the existing system of university education is altogether free from defects of its own and that there is no room for improvement? I should respectfully ask the Commission to investigate the few following facts, very vital indeed for the determination of the present educational problems:—

(*a*) Whether there is not too much teaching, under the present system, to the detriment of independent thinking, especially in the post-graduate classes.

(*b*) Whether cramming is not unduly encouraged and teaching dominated to a great extent by university examinations.

(*c*) Whether attendance at lectures should not be made optional at least in the post-graduate classes.

(*d*) Whether the number of teachers of proved merit and ability is not really too small in proportion to the teaching already taken in hand.

(*e*) Whether it is at all practicable to give individual attention to big classes of students necessarily varying in intelligence and intellectual attainments.

(*f*) Whether the teachers are not really overworked and underpaid, according to the present standard of living and general rise in prices.

MAHASAI, KUMAR KSHITINDRADEB RAI—*contd.*—MAHTAB, The Hon'ble Sir BIJAY CHAND—MAITRA, AKSHAY KUMAR—MAITRA, GOPAL CHANDRA—MAITRA, HERAMBACHANDRA.

(*g*) Whether fresh graduates of the University are really competent to teach the post-graduate classes and to conduct the post-graduate examinations of the University.

(*h*) Whether physical culture is not totally neglected to the detriment of health of the young college students.

(*i*) Whether or not there is sufficient encouragement for really deserving students of the University after they finish their college career.

Determination of these issues will clearly indicate the lines on which the existing system may be modified.

MAHTAB, The Hon'ble Sir Bijay Chand.

I do not think that the existing system of university education affords the full opportunity of obtaining the highest training.

The moral and specially the spiritual culture is being totally ignored. The physical and social culture are being carried on in a meagre scale and even the true intellectual culture is far too short of the mark. Since the last campaign against the old system of cram very little has really been done to impart true education, and we are still having the same type of graduates and under-graduates from the University (if not worse) instead of genuine scholars.

MAITRA, AKSHAY KUMAR.

The existing system of university education in Bengal cannot be expected to afford to young men of ability full opportunity of obtaining the highest training without uncommon self-exertion on the part of individual students. The main respect in which it is deficient from this point of view is its constitution, which necessarily subordinates teaching to examination and thereby encourages an undue measure of cramming.

MAITRA, GOPAL CHANDRA.

Poverty of original work seems to have been the great defect of the system. The last reform of the University seems to have effected some improvement in this direction as some original papers and treatises have been produced since the new regulations came into force. The University has since then established a science college of its own and taken under its immediate management the post-graduate classes. It remains to be seen how far these steps will be able to remedy the original defect.

MAITRA, HERAMBACHANDRA.

A serious defect of the present system of university education is the absence of any provision for imparting instruction and granting diplomas in agriculture, technology and commerce. There are hundreds of young men who might do excellent work as managers of farms or tanneries or mercantile establishments if they were educated for such careers, but who are now unable to earn a decent livelihood or to make themselves useful to the community because they have no aptitude for any of the various courses or study now prescribed by the University.

The need of the expansion of university education on lines calculated to develope the material resources of the country and to qualify young men for employment in industrial establishments is being more and more acutely felt. During recent years many of our young men have been proceeding to foreign countries for industrial education, and some

MAITRA, HERAMBACHANDRA—*contd.*—MAJUMDAR, BIRAJ MOHAN.

of them after their return have been employed in factories which are making satisfactory progress under their management. We should not continue to be dependent on educational institutions in other countries for the training of our youth for industrial pursuits.

One great obstacle in the way of our intelligent young men being given a thoroughly efficient training by the University is, that instruction has to be given and questions have to be answered through the medium of a foreign tongue. In the existing state of things, this cannot be, and it is not desirable that it should be, altogether done away with. An intimate contact with western thought through first-hand knowledge has been the making of modern India, and the western character of the present system of university education must be retained. But an attempt should be made to minimise, as far as practicable, the difficulty created by English being made the sole medium of communication in the teaching of, and in examinations on, all subjects. In certain subjects the vernacular may be made use of in teaching, and those appearing at university examinations may be given the option of answering questions on those subjects in the vernacular. Matriculation candidates are now allowed to answer questions in history in the vernacular if they choose to do so. This may be extended to geography in the Matriculation, and also to geography and science subjects in the higher examinations, the use of English terminology being retained.

In the matriculation examination the percentage of failures is very much larger in English than in the other subjects. Though the knowledge of English required for passing the Matriculation may appear to us to be moderate, yet it is a well-known fact that many of those who are shut out of the University by their deficiency in English are very intelligent and might pass the higher university examinations in Sanskrit, geography, mathematics or science subjects, if they were allowed to appear at those examinations. The same remark applies to those who pass in English, but fail in mathematics or Sanskrit. They might prove very serviceable as teachers of the subjects for the study of which they have an aptitude, and various other useful careers would be open to them, if they were not prevented from appearing at the higher university examinations on account of their not having passed the Matriculation in English or in some other subjects. It is very necessary that steps should be taken to prevent, as far as practicable, the waste of the intellectual resources of the country caused in this way. While there must be a minimum standard of proficiency in every one of the subjects prescribed for Matriculation, there is no reason why the University should not permit those who have failed in the Matriculation to appear at the higher examinations, and grant certificates of proficiency in some of the subjects included in the courses prescribed for them. Besides, candidates showing extraordinary merit in any particular subject might, in consideration of that fact, be granted diplomas or degrees. Mr. Ramanujan of Madras, who could not pass the intermediate examination of his own university, is now studying at Cambridge, where he has been recognised as a brilliant student of mathematics.

Experience has shown that the present minimum age-limit for the matriculation examination imposes an unnecessary restriction on many boys who are quite fit to appear at the examination before they are sixteen. This has sometimes a very depressing effect on those who are detained too long in the matriculation class, and there have been instances of clever boys having lost their studious habits through their remaining idle for a year or two. Well-to-do parents sometimes send their boys to England, and some students appear at the Cambridge local examinations, to evade the difficulty created by this rule. The minimum age-limit should be lowered by a year at least.

Students preparing for the degree of Master or Doctor should have greater facilities for study in a library and for working in laboratories.

MAJUMDAR, BIRAJ MOHAN.

In order to obtain the highest training in any particular subject, the students must continue to prosecute their studies after getting the highest degrees which the University can confer. But there is hardly any opportunity to do so in this country. The students, who are usually poor, are unable to prosecute their studies further

unless they get scholarships or allowances either from Government or from endowed funds. No doubt recently an attempt has been made on a very small scale out of Sir Taraknath Palit and Sir Rashbehary Ghose funds created for the purpose of scientific research. But this is quite inadequate to meet the growing demands in this direction. It is often found that earnest students who might have been able to carry on research work in different subjects are obliged to give up their pursuits on account of poverty

---

MAJUMDAR, PANCHANAN.

I do not.

I think the system is deficient in the following main respects :—

(*a*) Absence of adequate technological education.

(*b*) Absence of various branches of post-graduate study and research.

(*c*) Absence of education in religion or divinity.

(*d*) Too much attention to, and rigour of, the examinations.

(*e*) Defective conditions of admission into the University. Under the present system a boy cannot be admitted into the University unless he has passed the Matriculation and a student cannot be admitted into the B.A. class unless he has passed the I.A. examination and so on. This system prevents many a student of ability from acquiring university distinctions and not unoften mars their prospects in life. This rigid rule should be relaxed in special circumstances.

MAJUMDAR, RAMESH CHANDRA.

Yes, so far as it goes. (But *vide* my answer to question 7 for branches of learning which ought to be included in the university curriculum.) I beg to suggest that a few scholarships be instituted to enable the students to continue special study in a subject after passing the M.A. examination. Provisions should also be made for bringing these students into a closer touch with university professors in different subjects. (For other suggestions, *vide* my answer to question 3.)

MAJUMDER, NARENDRAKUMAR.

The present system is defective, because it neglects or does not provide for—

(*a*) Spiritual training, which implies the development of habits of self-help, co-operation, self-sacrifice and social service, as well as personal purity and reverence.

(*b*) Cultivation of civic virtues and training for citizenship or, in plain words, development of sense for the country. As England would never tolerate any education introduced there which would have the tendency of rendering an Englishman un-English, so India should not set up a system which would tend to render any Indian anti-Indian or even un-Indian. The danger here is greater because the medium of instruction is not the mother-tongue, through which alone the student can be in living touch with the habits of mind, the traditions and ideals of the country. The *cigarette-race*, recently held at the Medical College, Calcutta, is a good case in point. It shows how Indian students are being led away by anti-Indian ideals.

(*c*) Physical training—indigenous and suitable to the Indian physique and constitution.

(*d*) Vocational training, which should include training in :—

(i) Agriculture.
(ii) Technology.
(iii) Commerce including
  (*a*) Banking.
  (*b*) Insurance.
  (*c*) Railways, etc.
(iv) Mercantile marine service.
(v) Consular or diplomatic service, in which the best intellects of any country, especially England, seek employment.

(*e*) Art, including music.

MALLIK, Dr. D. N.

The existing system does not afford full opportunity owing to the following causes :—

(*a*) An atmosphere of work and research, such as is associated with University life at Oxford and Cambridge and other centres of learning has been wanting. It will be necessary to create such an atmosphere by giving to Indians (trained in such an atmosphere, in the first instance) facilities to devote themselves to study and research. [A good beginning has recently been made in this respect.]

(*b*) The burden imposed by the existing system of examinations is too great to allow of much leisure for reflection. Our students have little time *to think*, their time being entirely occupied with the work of getting up (often mechanically) prescribed courses. The pass examinations should be less exacting and the honours, more searching.

(*c*) Our teachers and students in their anxiety to obtain the best examination results, help to intensify the evils of the present system. *It is possible* to prepare for our examinations, without sacrificing the claims of a proper intellectual training, but it is difficult to secure due adjustment, owing mainly to the fact that our teachers are *not* in many instances in intimate touch with the examinations. [5, (3).]

(*d*) Inadequate arrangements for teaching in view of the large numbers.

(*e*) Inadequate preliminary preparation at school.

MASOOD, Syed Ross.

There should be a more intimate intercourse between the teacher and the taught which being based on real respect for the teacher's ability would create in the mind of the student a genuine desire to follow the intellectual activities of the teacher.

Examinations have become mere passports to Government service.

There is no healthy social life in our universities as they exist to-day. The Indian student does not look back with pleasure on the days he has spent in the University.

MAYNARD, The Hon'ble Mr. H. J.

In the University of the Punjab there are 25 students, on the average, to each teacher, a somewhat higher proportion than in some other Indian universities, and a far higher proportion than I (judging by experience of Oxford) imagine to exist in any of the universities in the United Kingdom. All these men, good, bad, and indifferent, who have passed the F.A. or F.Sc. examination (at the end of the first two years at the University) are studying for a pass degree ; though some of them take some extra papers (not involving any change in the kind or quality of the teaching) and are candidates for honours.

MAYNARD, The Hon'ble Mr. H. J.—*contd.*—MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

Men who were students in the University a generation ago talk of the close attention to individuals which some of the teachers then gave. There is now no tuition, in the sense to which experience of the universities of the West has accustomed one. That is to say that teachers do not set essays or exercises and talk them over with the pupil, do not criticise and suggest to the individual. There is no time for this, and the principal reason why there is no time is the number of the students. But a very strong subsidiary reason is that there is no differentiation between students of differing capacity. All must be taken along at one pace, some being held back, while others are dragged uncomprehendingly forward; and none is treated specially because all are in one category, with the same ground to be covered. For such crowds, of such various capacity, the text-book with all its notorious evils, and the lecture, which is a dictated text-book or an assortment of examination "tips," appear inevitable evils. The teacher cannot pronounce on the general quality of the work of men whose work, as individuals, he does not see; and there is no method of palliating the evils of an "external" examination by "internal" reports.

One obvious remedy (but a remedy of which the application is limited by financial considerations) is an increase in the number of teachers. The same object, with less expense, can also be attained in part (where colleges are situated close together as at Lahore) by inter-collegiate arrangements to prevent the duplication of work, or by the co-operation of the University itself in the provision of some of the instruction.

But this remedy, even where fully applicable, will not by itself be effective. There must be separate treatment of the two well marked classes of mind; the honours type and the pass type. Since all cannot get the best, and some would not benefit fully by it even if they get it, some must get the better while others continue to get what they get now; but with the hope that the practice of the better will in time re-act upon the worse, and raise the standard of university teaching as a whole. The more able student will receive a better kind of instruction; the less able, separated from an unequal yoke-fellow, will run a course better adjusted to his powers. The teacher will, in part of his work at any rate, have a freedom which is now denied to him: he will give fewer lectures and more personal tuition: and it will be possible to consult him as to the class to be assigned to his honours pupils.

MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

In my opinion, the existing system of university education does not afford to young Indians of ability full or even sufficient opportunity of obtaining the highest training for the following causes; *viz.*:—

(*a*) The courses of studies prescribed, particularly in arts, are not properly co-ordinated and consistently sustained throughout for adequate mental development of students. They generally end in desultory studies and teaching becomes unduly subordinated to examination. This places meritorious students under considerable disadvantages.

(*b*) The provisions for highest training are inadequate and insufficient and the fields for the practical use of such training extremely limited. The professors should be of the highest attainments in their respective subjects and the artificial and depressing distinction between what are called the Indian and the Provincial Educational Services, based upon racial consideration, should be abolished, merit being recognised as the sole test for all appointments in the Educational Service and thereby creating a genuine interest for highest training among Indians of ability.

(c) There is not that close association between the teachers and the taught which alone can ensure sound education. Teachers are more dreaded than loved and venerated. Highest training is difficult of attainment even by the ablest of students unless they are as much inspired by the high character of their teachers as by their efficient teaching.

(*d*) The question of bread is also a serious obstacle in the way of attainment of the highest training by Indian students of exceptional merit and ability. In a poor and service-ridden country like India the question of pecuniary consideration however gross and sordid from a truly educational point of view, cannot be wholly eliminated from the domain of education. The Educational Service is the most neglected of all the services and many a brilliant student is prematurely diverted from a systematic pursuit of higher knowledge. The pay and prospects of the Educational Services should therefore be considerably improved and widened. The University itself should absorb some of its best alumni and besides the professorships in the various colleges the posts of headmaster and of inspectors of all ranks and grades should be reserved for them. Given the best teachers and given better prospects there would be a stimulus as well as an incentive for Indian students of ability to aim at the highest training in their respective branches of study.

(*e*) Although in a country like India, where diversities of religious faiths prevail, it is neither possible nor desirable for a university to impart religious education, there is no reason why it should not prescribe a systematic course of moral training for its students. In the absence of such a course of studies the most intelligent among Indian youths are growing up in scepticism and materialism which are not only repugnant to their natural intellect, but also highly prejudicial to the development of their national culture.

(*f*) A wholesale exclusion of students from participation in politics, however desirable in the case of immature matriculates is a serious impediment to the proper cultivation of the reasoning faculties and under-graduates who are thus sent adrift into the world aimless without any power of observation and without such equipment as are necessary to make them good citizens and useful members of society.

McDOUGALL, Miss ELEANOR.

If a man has real ability and a strong character, the University will give him a good opportunity of developing both. But most of the young people who attend universities have not enough mental capacity to enjoy the studies prescribed for them and without this enjoyment the courses lose their educative value. Syllabuses are drawn up and examination papers are set by people who are distinctly above the average in intellect, and who instinctively adapt them to their own capacity. They are thus ill-adapted as a means of education for the average under-graduate. Either in quantity or in quality the demand is too high and the mind of the student is severely strained by the effort to reach the minimum standard required. This constant struggle to reach the minimum lowers the general standard of aspiration.

If it is considered advisable that the university degrees should be within the reach of young people of merely average ability, I should suggest—

(*a*) an easier course and a much higher standard of attainment in it, and

(*b*) a higher age of entrance to the University, so that the over-strain on school-girls and school-boys might be lessened.

MEEK, D. B.

The existing system does not prevent all students from obtaining the highest training. The University consists of a number of colleges, some good and some indifferent, and in some of the best colleges a few students come under the personal and even intimate guidance of their teachers and probably in many ways obtain a very good training. The system as it stands at present, however, does not lend itself to the complete application of this ideal.

MEEK, D. B.—*contd.*—MITRA, KHAGENDRA N.

Except in the most advanced stages in the best colleges the classes are much too large to permit of the possibility of the teacher becoming intimately acquainted with the mental calibre of each student and of modifying his instruction and advice to suit the individual. The present system permits of the existence of classes of such magnitude that any approach to good teaching in them is an impossibility. Even with large classes it is possible for a few students, who bring themselves more directly to the notice of the teacher either by their exceptional ability or by other qualities, to receive personal guidance from the teacher. In these circumstances the other students are rather apt to feel, perhaps to some extent rightly, that they are being neglected.

The whole under-graduate teaching is bound down by the examinations. No freedom in choice of material is encouraged and any originality on the part of the teacher or the student is likely to produce disastrous results for his students when they go up for their examinations. Where freedom should be the one thing encouraged it is the thing which, by the present system, is the most discouraged. Yet it is difficult to say whether freedom would be a great benefit to the present under-graduate classes as a whole. For the proper development of the students of ability it is essential, but I am afraid that the classes are clogged with students who can hardly be described as students of ability. Freedom for those would probably be worse than restraint and as the fundamental principle of any true university ought to be freedom, the natural conclusion is that they are not fitted mentally to be students in a university. In fact it simply comes to this that most of the under-graduates in the Calcutta University are still really at the school-boy stage as judged by their mental capacity. If young Indians of ability are to have full opportunity for obtaining the highest university training there must be found some means of separating them from the multitudes who are mentally unfit to profit by university education to which the present educational system naturally drives them.

MITRA, KHAGENDRA N.

The system of university education now in vogue does not afford our students opportunities of :—

(1) independent thinking,
(2) practical training,
(3) spiritual education, and
(4) physical culture.

The University should organise literary and inter-collegiate debating societies for promoting intellectual training. In order that our education, which is at present more of a theoretical nature and enables the students merely to obtain their degrees, may be practically utilised in life, it should be conducted in such a way as to familiarise the students with the natural resources of the country.

There should be organised a department for physical education as a part of a university training to provide an incentive and an opportunity for every student to secure recreation as a balance to the sedentary demands of university life.

The proposed department shall prescribe courses compulsory to every student and these courses are to be designed to secure a high degree of organic power which is the basis of vitality and the pre-requisite to mental efficiency, harmonious physical development and a reasonable degree of skill and grace.

To determine the condition of physical development and the degree of motor efficiency attained by the students, the following tests are to be arranged :—

(*a*) A thorough medical examination given under the Department of Clinical Medicine. In harmony with the findings of this examination the Department of Physical Education will modify the prescriptions of physical exercise.

(*b*) A thorough physical examination made by the Department of Physical Education, which will include measurements of the body, certain strength tests, and search for abnormal deviations.

(*c*) A series of tests to determine muscular control, endurance and agility, etc.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

Although attempts are being made for affording to young Indians full opportunity of obtaining the highest training and although there has been some improvement in this direction, the ideal has not yet been attained. This is due to the poverty of the people, and to the dearth of teachers of high ability. No doubt the highest efficiency cannot be attained cheaply. But in a province like Bengal which is inhabited chiefly by a number of ill-paid clerks and labourers, special care should be taken to remove any difficulty which these people feel in educating their children for want of money. In order to do this larger grants on a more liberal scale should be made by the Government for educational purposes and a larger number of institutions should be established. Grants such as at present made by Government are insufficient. Contributions from benevolent rich people such as those made by Sir Tarak Nath Palit and Sir Rashbehari Ghose are necessary for the improvement of the present system of education. There are some young men who on account of their poverty are compelled to earn their living and carry on studies in the University. Special arrangements should be made for these people. In many cases the qualifications and experience of the teaching staff are not satisfactory; but while saying this I do not altogether ignore the competency of some hard-working teachers and professors in some institutions. It is not for me to discuss the qualification of every individual professor or teacher in detail, but it is sufficient for me to say that many of them have had very little training in the art of teaching. It is not enough that persons who obtained the highest degree in the University should be appointed professors. Before appointing a new professor or teacher a candidate should be engaged as a probationer. He should be asked to make researches for two or three years in the subject in which he proposes to be a lecturer. He should be required to learn the art of teaching and the systems of education with special references to various European and Asiatic countries and the science of education in detail. After that special examinations should be held by experts in that subject and the examination should be written as well as oral. During their probationary period they can be employed as teachers of the lower standard and if to every school and college such probationers are attached the work of teaching can be more satisfactorily conducted. There ought to be an improvement in the B.T. and L.T. examinations and in the system of training of teachers. If required the candidates should be sent to Europe or America for special training in special subjects. At any rate the professors and teachers should be men of first-rate ability and of recognised standing. Researches and post-graduate education are necessary.

In order to afford sufficient opportunity of obtaining highest training it is also necessary to establish a large number of well-equipped libraries, laboratories and museums in the various parts of the country—at least at the headquarters of each district and also in the neighbourhood of each college and school—and every student should be compelled to attend these institutions and the percentage of such attendance should be one of the conditions of appearing at a university examinatin. A large number of prizes and scholarships may be awarded in order to encourage the study of the students in the libraries, laboratories and museums. Adequate provision should be made for the study of experimental psychology, zoology, geology and mineralogy and the present system should be further improved.

There ought to be some Ayurvedic colleges in our country and special grants should be made by Government for the establishment and maintenance of such colleges.

There should be a thorough change in the system of awarding research scholarships. In many cases the researches bear no fruit and the scholars enter other professions.

MITRA, RAM CHARAN.

I consider that the existing system of education in the Calcutta University affords to young Indians of ability ample facilities for obtaining the highest training. The education imparted to our youths in school fits them for further study in the affiliated colleges up to the B.A. and B.Sc. standards. They can then pursue their studies in the university post-graduate college.

MITRA, RAM CHARAN—*contd.*—MITTER, Dr. DWARKANATH—MITTER, Dr. PROFULLA CHANDRA—MITTER, The Hon'ble Mr. PROVASH CHUNDER.

I may here observe that a student who has a taste and aptitude for a particular subject will, after passing the B.A. or B.Sc. examination, only require occasional help and guidance from teachers, and I understand that the university professors are always ready to help the students out of their difficulties.

MITTER, Dr. DWARKANATH.

The answer should be generally in the negative, and that for the following reasons :—

The word "highest training," as I understand it, means training which results in the development of a sound mind in a sound body in the student of the University. By sound mind I mean a mind sound both intellectually and morally. With regard to the development of a sound body the attitude of the Calcutta University is one of *laissez faire*. The result of this attitude is that distinguished students carry with them feeble health when leaving the University. With regard to intellectual training the obvious defect of the present system is that it allows a too early specialisation. In the pre-graduate studies the present system of allowing students to choose out of a number of alternative subjects results in some subjects being altogether neglected and thus affects general culture which has always been associated with university education. The tendency appears to be to excuse the students from learning what others have done before them prior to the new regulations. In my opinion, specialisation ought to begin after the *graduate* stage, previous to which university training should aim at a general broadening of the mind, for it seems to me that the effect of a highly specialised education on intellectual strength is very little. It may have great effect on intellectual aptitude for a particular thing. It must be said however that the present university system does not neglect the side of education which is suitable for the purpose of the specialist or the man of research, but this is not the whole of its aim, for it ought not to neglect that side of education which aims at the wide diffusion of intellectual study and which improves the man by reason of what it puts him through.

With regard to the moral side of education, I think, the University ought to make ampler provision for moral instruction in spite of the declared policy of the Government of neutrality in religious matters. The University should arrange for the delivery of lectures from time to time by persons of different communities who are honoured and respected for their life and character.

MITTER, Dr. PROFULLA CHANDRA.

It is quite possible for a young Indian of ability to obtain the highest training under the existing system of university education, judging by the attainments of many graduates whose training has been entirely confined to Indian universities. Not that the present system is not capable of further improvement. The libraries and laboratories could be better equipped and I should like to see the number of first-rate teachers increased. More leisure might be afforded to teachers to pursue independent investigations in their own subject. For this, it is necessary that more teachers should be appointed to teach particular subjects than is done at present.

MITTER, The Hon'ble Mr. PROVASH CHUNDER.

I have to some extent answered this question in my preliminary note. The main defects of the present system of university education are :—

(*a*) Want of a clear line of demarcation between types (*a*) and (*b*) of my preliminary note. I may be permitted to add that the recent laudable attempt

MITTER, The Hon'ble Mr. PROVASH CHUNDER—*contd.*—MUKERJEE, ADHAR CHANDRA—MUKERJEE, Dr. ADITYANATH—MUKERJEE, RADHAKAMAL.

of improving post-graduate studies will perhaps fail to realise its object fully because of the mixing up of the aforesaid two types. It also has the effect of practically making type (*a*) non-existent before the period of post-graduate studies begins and of hampering that type when such studies do begin.

(*b*) Want of non-professional vocational training according to the requirements of the country.

(*c*) Inadequate provision and opportunities of professional vocational training in medicine, engineering and teaching lines.

(*d*) Drifting into the profession of law of young men who by inclination and capacity are not fitted for that profession. This is the result of want of opportunity and provision for other vocational training.

MUKERJEE, ADHAR CHANDRA.

No: for we no longer get professors of first-rate ability like Duff, Hastie, Croft and Tawney; and there are hardly any first class libraries and laboratories.

MUKERJEE, Dr. ADITYANATH.

It cannot be said in the case of any existing system of university education that it provides *full* opportunity of securing the highest training: the actual must necessarily fall short of the ideal.

The training afforded by the Calcutta University has proved amply sufficient for the purposes for which it was founded. And if it has not produced better scholarship and a more ardent spirit of research, the causes of this failure must be sought for outside the University. The practical closing of the superior branches of the public services even to its distinguished *alumni*, the absence of an appreciating public sufficiently wide to awaken in them a desire for scholarly reputation, and the non-existence of a local market where the practical results of their scientific investigations may command an adequate price, are some of the causes which have exercised a very depressing influence on our graduates. This is a case which illustrates the mutuality or reciprocity of causes and effects: the sphere of employment was originally restricted because of the necessarily imperfect training and equipment in the initial stages of university education in Bengal; but subsequently the effect reacted on the cause. Thus if in the earlier stages inadequate training was responsible for restricted employment, in the later stages university training, in spite of having achieved very good results, has failed to progress beyond a certain point, because of the limited scope of employment.

The defects then are not so much in the existing system as in the surrounding atmosphere. Unless there be a change in the environment, university education cannot be substantially developed beyond the stage which it has already reached.

MUKERJEE, RADHAKAMAL.

No. The present system is deficient in the following respects, being based on a false psychology and a false pedagogy:—

(*a*) There is a total divorce of education from life and from labour, resulting in futile abstractions and barren sciences.

(*b*) The system trains only for a few professions and engenders a contempt for industry and trade, and especially for agriculture.

(*c*) The bugbear of examinations and the anxiety about unemployment in the future.

(*d*) The emphasis of egoistic interests, and the neglect of communal and cultural interests.

MUKERJEE, RADHAKAMAL—*contd.*—MUKERJI, SATISH CHANDRA.

(*e*) A general decline of moral and spiritual strength in the selfish pursuit of an education for mere livelihood which is due to the overcrowding in the professions and consequent demoralisation, economic and political dangers.

MUKERJI, SATISH CHANDRA.

The existing system of university education is defective, mainly because it neglects the physical and moral education of students. In the case of Hindu India, the best results are expected if we can combine the good features of the old indigenous mode of education, known as Brahmacharya, with the modern western method. At any rate, it is highly desirable that an experiment should be made on a small scale to see the results of such a combination. A few outlines for such an Indian University College for the Hindus are briefly given below. (A similar residential college may be founded for the Musalmans, combining the good elements of Musalman culture with modern methods.)

In a suitable locality in the suburbs of Calcutta, extensive lands may be acquired, but strict economy is to be observed in connection with the buildings for the classes and hostels of the students. It may be observed that the majority of Bengalis live in huts, and so will be quite at home in modest dwelling places. In a poor country like India, money should be economised with reference to buildings, and spent more liberally in connection with the more important matter of securing the services of a sufficient number of worthy teachers. It is further to be noted that in the hot climate of India, classes can be held in the open throughout most of the year, thus dispensing with the necessity of many rooms. As a matter of fact, simple thatched sheds without walls are good enough for class rooms.

The teachers will live with their families within the university precincts, showing examples of plain living and high thinking to the pupils, who too are not to live as luxurious Babus but to live the puritanic lives that are recommended for students in the Hindu Sástras. There should be few servants and cooks, the students themselves performing the domestic duties. Moreover, there should be dairies and plantations as well as mechanical workshops connected with the college, where the students by means of practical work will gain first-hand knowledge about these important departments of social organisation. These open-air works of a cowherd and a cultivator, as well as the manual labour of a cook and a mechanic, will serve as excellent methods of making the body healthy and strong, besides improving the knowledge and character of the students.

In the climate of India the daily routine of work is to be so arranged, that work is done in the morning and evening, the noon being set apart for rest. The first duty of a student rising in the morning should be prayer (of such a catholic nature that all Hindus may join in it)—for, in my humble opinion, no education is perfect which is divorced from religion. Then the classes will begin, where regular lectures on a subject will be alternated with discussions between the teacher and the pupils, books being used freely for purposes of reference. The defective system where pupils simply passively imbibe the lectures of teachers should be corrected by encouraging the students to think for themselves.

There should be no I.A. or I.Sc. examinations or degree examinations in this university. The teachers, at their own discretion, may test the acumen of pupils from time to time. When the student has gone through the prescribed course to the satisfaction of his teacher, he will get his degree. The names of the graduates shall not be published in order of merit, as the spirit of competition caused thereby ruins the health of many students. The awarding of scholarships to the students will be determined by the poverty of the students, and they will be of the nature of a loan to be repaid by the students when they begin to earn. (This is the system followed by the Japanese university.)

There should be a strict supervision over the daily habits of the students. They will have to practise works of charity and benevolence. For example, they will have to work as volunteers if there is any calamity in the country. In their vacations they will have to work among the ignorant people as teachers spreading useful knowledge like that of

MUKERJI, SATISH CHANDRA—*contd.*

sanitation and agriculture. If any student is found guilty of immoral conduct he will be warned, and on his neglecting the warning he will be expelled from the University. Similarly any student persistently neglecting his health will be liable to expulsion. And above all there should be compulsory military training for all students, so that they may be of service to the Empire in times of war.

In short, the aim of this University will be to turn out a number of students, who will be hardy and healthy in body, who will be able to think for themselves and will be acquainted with the world they live in, and who will be religious and moral citizens.

As regards the curriculum in this university, whose aim, as has already been set forth, is to be general culture, a few points are mentioned here. At the very outset, it is to be remembered that everything depends upon the ability and freedom of work of the teachers. Otherwise we may have good regulations, but they will not be properly carried out. The honours and emoluments of a teacher's profession are to be considerably improved, in order to attract the best talents of the country to this all-important work of preparing the future citizens of the country. These teachers must also pass through a course of pedagogics before they can be entrusted with the difficult work of teaching.

Now it is admitted by all that unless a solid foundation is laid in the schools, little can be done in the colleges. For this reason, the ideal University that is being described here, should begin with boys of about ten or twelve years of age, after they have learnt the rudiments of the three 'R's' in some primary school.

Before dealing with the curriculum of studies, we must bear in mind that the education must be of a thoroughly practical nature, and we should utilise the researches of modern educationists of the West. We shall also get valuable suggestions from a study of the educational methods of modern Japan.

Here is a tentative list of the subjects of study in an ideal University such as is recommended by me :—

Compulsory subjects (meant for all students)—Bengali literature (modern), modern English prose (for learning the language only), mathematics (elementary course), Indian history, geography (with special reference to India), law and administration of India (elementary course), one science subject (botany, chemistry or physics), hygiene, drawing and singing.

Optional subjects (some of which are to be taken up over and above the compulsory subjects)—English (literature), a third language (Sanskrit, old Bengali Hindi, Persian, French or German), mathematics (higher course), history (of England and Rome), sciences like (physics, chemistry, geology, physiology, psychology, etc.), logic, politics, economics.

Of the optional subjects, the students preparing for the career of an engineer will have to take up mathematics, physics and chemistry; those preparing for the career of a medical man will take up chemistry, physiology and zoology; those preparing for the career of a priest (who will later on graduate in the college of theology) will study Sanskrit, psychology and logic; and so on.

A student of average merit is expected to graduate at about the age of 18. Then he will join a college for his vocational training, and henceforward he will have to stay in Calcutta (for Law College, etc.) or Pusa (for Agricultural College) or some other place, either in some recognised hostel or with guardians.

For some years to come, before the ideal college in the suburbs is definitely successful, the existing arts colleges (which should imitate the ideal college as far as practicable) will turn out graduates who will have the same status as the graduates of the ideal college. But the university examination, like the I.Sc. and B.Sc. examinations, can be at once dispensed with, the teachers of the various colleges being empowered to bestow degrees on their own pupils. The University may employ some inspectors to see that the proper standard of teaching is maintained in the different schools and colleges. The Senate of the University will consist mainly of the representatives of the teachers of all the schools and colleges, and will frame regulations for the guidance of the institutions. Thus a uniformity of standard may be maintained. The regulations must be

revised frequently, say every three years, in order to keep them abreast with the advance of the science of education.

In order to prevent unusual rush of students to the few existing colleges, many of the high schools of the present can be raised to the standard of colleges. This can be easily done, as there is not to be any specialisation in any subject in these colleges. As a matter of fact, these colleges will be in many respects comparable to the advanced secondary schools of England and Germany and Japan, with reference to the standards of the subjects taught.

MUKHERJI, PANCHANANDAS.

"No university is now-a-days complete unless it is equipped with teaching faculties in all the more important branches of the sciences and the arts, and unless it provides ample opportunities for research. You have to conserve the ancient learning and simultaneously to push forward western science."

"It is my wish that there may be spread over the land a network of schools and colleges, from which will go forth *loyal and manly and moral citizens, able to hold their own in industries and agriculture, and in all the vocations in life.*"

These two extracts from the memorable reply of His Imperial Majesty King-Emperor George V to the Calcutta University address give us, in the fewest words possible, the ideals of university education in India. Judged by them, the existing system of university education cannot be said to afford to young Indians of ability (except in the case of a few who can supplement the defects of the university training by special individual efforts and opportunities) full opportunity of obtaining the highest training.

I consider the existing system deficient in the following respects :—

(*a*) It begins specialisation at too early a stage and thus renders abortive the beneficial effects of education by making it narrow.

(*b*) At the post-graduate stage it does not give the student adequate facilities and opportunities for independent study and thought which are so necessary for specialisation in any department of knowledge.

(*c*) It does not pay adequate attention to the physical and moral needs of the student and thus gives him only an imperfect training.

(*d*) The education that is imparted under the present system is too one-sided—it is mainly literary and theoretical: it gives rise to an outlook of life which does not rise above the hum-drum, commonplace activities of the day. It does not offer any opportunities to the student to foster in him those habits and ideals which impel students of other lands to adopt independent careers in the business and industrial world and lead to the development of the economic resources of the land. This last defect in our educational system is very well brought out by Sir James Meston in one of his recent Convocation addresses as Chancellor of the Allahabad University: he asks :—

"What is our education doing for us? Is it giving the individual an equipment for his career? Does it make for his greater happiness? Does it open for him the doorway to material success? And what does it do for the nation? Is it fitting us for that strife of industry and trade which is more permanent and more bitter even than the war? Is it training us to use our own produce, our natural advantages, our labour, our brains, so that we can meet and bargain with other nations on equal terms?"

So far as the Calcutta University is concerned, all these questions have but one answer.—No.

MUKHOPADHYAYA, Dr. SYAMADAS.

I do not consider that the present system of university education in India affords full opportunity to young Indians of ability of obtaining the degree of liberal and technical training that they are capable of and the necessities of the times required.

MUKHOPADHYAYA, Dr. SYAMADAS.—*contd.*—Murarichand College, Sylhet.—NAG, J. C.

The main shortcomings of the present system in my judgment are:—

(*a*) It is based on an inefficient system of school education.
(*b*) The colleges are not sufficiently well staffed and equipped though they are better in these respects than the schools.
(*c*) The examinations are so many blind goals at which the students strive and beyond which they find very few openings.
(*d*) The position of the teacher is not sufficiently recognised in the University or outside it.
(*e*) There is insufficient inducement for Indian teachers to attain to eminence in their subjects.
(*f*) There is little contact between teachers and students outside lecture rooms—more specially in the case of European teachers and their students.
(*g*) There are no sufficient number of colleges to accommodate the students and consequently there is a crowding of students in the colleges.
(*h*) The feeling and atmosphere of corporate university life are lacking.
(*i*) Physical culture is neglected more specially in the schools and colleges of Calcutta for want of play grounds sufficiently near.
(*j*) There are insufficient facilities for research work either by teachers or by students.
(*k*) There is no provision or not sufficient provision for industrial, commercial or technological education.
(*l*) The fine arts are entirely ignored.

Murarichand College, Sylhet.

No, the existing system does not afford full opportunity.
Deficient because:—

(*a*) Number of professors who take interest in, and can direct, research work, and who can stimulate the spirit of research among students, and who can inspire in students a critical attitude and originality of thought—insufficient.
(*b*) Number of good libraries and well-equipped laboratories—insufficient.
(*c*) Opportunities of intimate personal relation between professors and students—insufficient.
(*d*) Highest teaching is not centred in as few places as desirable.
(*e*) No provision for interchange of professors among the constituent colleges.
(*f*) Arrangements are not made for a sufficient number of professors from abroad and from the Indian universities to deliver higher courses of lectures.
(*g*) Want of regular unions of teachers and professors.

NAG, J. C.

The history of the development of an educational institution in this country is very peculiar. The idea with which the educational institution of the present type was started did not aim at imparting the highest training. The need of English education was felt because men were required to fill up posts in the public services, and people trained in these institutions were considered to have been sufficiently educated for the purpose. Even up to the present time the same situation is continuing and the aim and ambition of every graduate who comes out of the University is to find some employment under the Government or elsewhere. The State is interested in university education so far as it has to depend upon it for the supply of a particular type of man who will be able to carry on the routine work of its different departments. Beyond this the State has no other relations with the University. Necessity of the State has no doubt acted upon the University and consequently a system of education has developed which is rather restricted in its scope and limited in its possibilities. The main defect of the present system of university education lies in the fact that it has not developed with the changed conditions of time. The

NAG, J. C.—*contd.*—NANDI, MATHURA KANTA—NANDY, The Hon'ble Maharaja Sir MANINDRA CHANDRA.

University cannot exercise adequate control over the affiliated institutions because of the area. It is due to the absence of this regulating influence at the controlling centre that every college has developed in its own way. Recently, an effort has been made to utilise the resources of Calcutta with reference to the post-graduate teaching and it will no doubt produce good results. I believe the same principle should be extended also to the under-graduate teaching. As we are situated now the harmful segregation of the individual institution affiliated to the University has led to wasteful duplication of work and unnecessary expenditure of money. To avoid this and to bring university education up to the modern standard, it is indispensable that the University should try to transform itself into a teaching University of which the existing colleges might well serve as different departments. Under the new condition, it is not necessary that every department will do all the work of teaching in every branch. They should be asked to specialise in certain branches of science or literature. In this way much unnecessary duplication as now exists can be avoided. By a co-operation of this kind, we shall be able to create a new situation where ample scope for special study and research will be allowed to the teachers and the students necessarily will be able to reap its benefit. Every department of the University must be headed by a man of approved experience and fame, and he will have under him an adequate staff to assist in his work. Each department of the University will arrange for the course of lectures that it has to deliver during the year. I may here add that the standard of teaching also has to be raised. The students should choose their own subject as soon as they enter the University. I should strongly advocate to incorporate the present intermediate arts and science courses into the high schools, and the students should be allowed to sit for their degree examination after they have completed a term of four years in the University. Question may arise as to whether it would be necessary to include a second degree examination within the scope of university training. I think that a master's degree may as well be omitted from the scope of the new university. Students who have special aptitude for a particular subject may proceed to the D. Sc. degree which will be granted to them three years after their first degree subject to satisfactory work under the guidance of a professor. Report of such work should be presented to the University in the form of a thesis.

To make the new type of university a success, it is necessary that every member of the staff should be given sufficient facility to travel abroad and this should be made a matter of compulsion every seven years.

NANDI, MATHURA KANTA.

No. The deficiency lies in staff, equipment, and inadequate provision for research or original work. There is too much memory-work.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

It will be admitted on all hands that Indian universities aim at affording to young Indians of ability full opportunity of obtaining the highest teaching and that the Calcutta University has in recent years effected great improvements in many branches of learning. Students of science can now avail themselves of the opportunity afforded by the University Science College of arrangements for seminar work and original investigation. Chairs have been founded in special subjects. The provision for completely equipped libraries and laboratories has greatly increased the efficiency of the University; in short, the Calcutta University now affords such facilities as would enable the qualified students to attain high scholarship. But it remains to be determined whether such education as the Calcutta University imparts is sufficient for the purpose of turning out highly trained young men capable of dealing with moral, social, agricultural, commercial and industrial problems of their country. Until the following defects are remedied, *i.e.*, provision is made for education in agriculture, commerce and industry, and the want of moral and religious education is removed, schola-

stic attainments alone which have little or no connection with the vital problems of life cannot achieve the definite and desired object which underlies this question. So, with a view to make the University thoroughly efficient a further development in these directions should be made.

NANJUNDAYYA, H. V.

[I assume that Madras University fairly represents the existing system of university education.]

No. (The existing system does not afford full opportunity.)

The defects may be attributed to the following :—

(*a*) Huge classes of students of very varying degrees of attainments;
(*b*) Insufficient preparation in the secondary stage;
(*c*) In many cases, inefficient teaching staff; and
(*d*) Want of encouragement of independent work and research by the students

NEOGI, Dr. P.

The Indian universities, it must be admitted, have achieved a large measure of success in the propagation of higher education in the country. They have furnished the country with an ever-increasing number of cultured people, imbued with the spirit of modern western civilisation, and have imported the knowledge of Western science into India. But at the same time it should be borne in mind that the system of education now existing in the Indian universities has by this time largely outgrown its usefulness and I would briefly indicate the deficiencies of the present system and suggest remedies with a view to remove these deficiencies :—

(*a*) *The present system is wholly and purely literary in character.*—The universities impart education either in purely literary subjects or in pure science. No arrangements exist in the Calcutta University for imparting either commercial, technological or agricultural education. About fifty thousand students annually sit for the various arts and science examinations but barring a few students in civil engineering no students appear in any examination relating to commerce or the multifarious branches of technology. The theoretical and practical teaching imparted in such scientific subjects as physics, chemisty, geology, botany, etc., relates to *pure science* only as opposed to applied science with the result that all the science-teaching of the last half-a-century has very largely been a waste of energy and money. Scientific knowledge is important in two respects—firstly, in the creation of new knowledge and secondly, in the application of that knowledge to the development of the industries of the country. As regards the first, a large amount of work is being done so far as physics and chemistry are concerned, but as regards the second our record is practically *nil*. This state of things should be remedied as early as practicable. A system of education which remains divorced from the *practical needs* of the country and fails to solve the ever-pressing bread problem of the country needs to be thoroughly overhauled and brought into lines which will ensure material prosperity to our countrymen. A comprehensive and complete system of commercial, technological and agricultural education is, in my humble opinion, the most pressing necessity of the moment. A rough outline of such a scheme has been sketched whilst answering question 7.

(*b*) The second deficiency of the present system which appears to me is that *it has failed to awaken a proper spirit of research work in the minds of the alumni of the University.*—It is true that the present system has given us some scientists, historians and literary men of European reputation but the record is negligible after full sixty years of university education compared with the record

of European universities. In European universities research work is the *invariable* accomplishment of every professor (not tutor) in a college or university, and in fact a sort of *sine qua non* for appointment as a professor, whilst in our country, it must be admitted, though with regret, that it is a very rare accomplishment of our college professors. It is obvious that a teacher who is himself devoid of the necessary eagerness cannot be expected to lead his pupils along the path of original investigation.

The reason for this lack of the spirit of enquiry is not very difficult to ascertain. It lies in the simple fact that *research work has not hitherto been properly encouraged,* and in fact in the eyes of many college authorities it has been regarded as a sort of disqualification. Passing a sufficiently large number of students in examinations has been the sole aim of every college and it has never been acknowledged until very lately that *research work is as much a part of a teacher's work as mere teaching.* Not unoften a teacher who utilises his leisure moments after or in the midst of a day's hard routine work not only meets with no encouragement at the hands of the college authorities but on the contrary often finds himself positively discouraged with additional routine work heaped on him on the wrong notion that full value of his time has not been exacted in the form of class-teaching. Happily things have improved of late. The Government of Bengal, appreciating the value of training in research work, has established ten research scholarships of Rs. 100 per mensem. The Calcutta University has converted the Premchand Roychand Studentship into research scholarships and established research prizes such as the Griffiths Memorial Prize, Jubilee Research prizes, etc. The University College of Science, moreover, has afforded its teachers and pupils ample opportunities for prosecuting original investigation in science. These are good beginnings but more has to be done. My suggestions on this head have been elaborated whilst answering question 16.

(iii) The third deficiency of the present system of education is that *the system is entirely Western and almost wholly divorced from Oriental systems of thought.* I have in mind two things in this connection. In the first place, in subjects like philosophy only the Western systems of philosophy are taught in colleges, whilst the Indian systems are not touched excepting in the M. A. examination. Similarly history of chemistry is a subject in the B. Sc. honours course, but whilst we teach about Geber, Bacon and Paracelsus, Indian alchemists like Nāgārjun find no audience in the Calcutta University. What I would contend in this connection is that wherever possible a co-mingling of both eastern and western systems of thought should be attempted.

In the second place, the vernacular languages have been, except lately, entirely neglected by the universities. English being the medium of instruction not only in colleges but also in secondary schools, an undue though wholly unmerited embargo has been put on the higher study of the vernacular languages in the universities. It is gratifying to acknowledge that university education has given a remarkable impetus to the development of the vernaculars, specially Bengali, but I beg to submit that they should be accorded their legitimate place in any system of university education. My suggestions on this head are given in answer to questions 11 and 12.

(*d*) Lastly, *the system has the supreme disadvantage of being entirely secular.*—No serious attempt at imparting religious education either in schools or colleges has been made either in private or Government institutions. I do not know if such a system of "godless" education, both school and collegiate, exists in any other country. In European countries all educational institutions, specially schools, have their chapels, whilst religious services and teaching form a part of the daily work in schools. In our country, on the other hand, the nation's entire youth is growing up to manhood without ever coming in touch with subjects relating to religion which is admittedly the most

precious treasure of a nation. This somewhat unnatural and "godless" system of education has therefore given rise to the agitation for the foundation of denominational universities and institutions, such as the Benares Hindu University, the Aligarh Moslem University, the Gurukul and the Rishikul of the Punjab in which some form of religious education has been sought to be made compulsory.

Whilst it is easy to finger the plague spot in this connection on the body of the educational system as it exists, it is not so easy to formulate definite constructive proposals for imparting religious education in schools and colleges. The matter is further complicated by the policy of the Government to observe strict neutrality in matters of religion. Whilst admitting the difficulty of the situation, it is not necessary to admit that the problem is insoluble or be postponed to an indefinite future.

NEUT, Rev. Father A.

I do not see how the existing system of university education could afford to young Indians of ability full opportunity of obtaining the highest training. It may, and does, impart a certain amount of knowledge, and advanced knowledge too: no doubt a course like the honours B.A. or B.Sc. offers to young Indians of ability full opportunity of acquiring real knowledge. But in the greater number of cases, it means knowledge poured in for the sake only of passing an examination, the candidates not minding what is poured in as long as it serves the purpose. Under such circumstances the mind stands little chance of being formed.

Besides, knowledge alone does not constitute or complete the highest training: the character is to be formed, and certainly the present system does nothing in that direction. It does not throw the young man into the arena where alone characters are formed: I mean, he is not brought in contact with others whom a common aim brings together and places under the guidance of superior minds and lofty characters. In most cases, the professor lectures and knows his students no more outside the lecture hall; and students leave the college buildings to return into their own surroundings, which are as a rule not redolent of intellectual pursuits; and of their fellow students, except a couple or so—all of the same tastes, not necessarily the most elevating—they see nothing more till they again are assembled in the lecture hall, always remaining more or less strangers to each other, with no bond in common, not even a religious bond. The college is for them a shop where they buy a certain commodity and find others bent on the same errand, but without heeding who sells or who buys.

Were it the case that the student returns from his college to a home where he finds trained minds and elevating characters, he would have there a kind of compensation for the stimulant and help he lacks in his college. But how very few have such a home or a home at all, while they are prosecuting their studies.

Hostels, I shall be told, will give you what you look for. They may afford much help, no doubt, but they would have to be modified on lines which, I am afraid, we shall not often see adopted in India. But I better reserve my remarks on this point for question 19.

North Bengal Zamindars' Association, Rangpur.

No. Education implies the training of body, mind and soul. The existing system of university education fairly trains the mind, but leaves body and soul very insufficiently developed. Even some of the best faculties of mind such as self-respect, self-help, patriotism, etc., are not only ill-nurtured, but stunted by unsympathetic teaching.

PAL, The Hon'ble Rai RADHA CHARAN, Bahadur—PARANJPYE, The Hon'ble Mr. R. P.—, Peoples' Association, Khulna.

PAL, The Hon'ble Rai RADHA CHARAN, Bahadur.

No. Most students care more for degrees to qualify themselves for the practice of the professions rather than for training and culture. They pay fees and attend college classes for the most part because a certain percentage of attendance at class lectures is essential, under the university regulations, for permission to appear at the examinations, and not for the sake of the teaching imparted by the professors in the college classes. The teaching has degenerated into mere dictation of notes suited to be answers for examination questions often taken from so-called keys and guides on which students have mostly to rely. The whole system has been turned into a machine for holding examinations and conferring degrees. Recognition of merit depends entirely upon the results of the examinations, and these latter depend more upon memorising and cramming of notebooks and guides than upon an honest and intelligent study of the subjects prescribed. The effect of this pernicious system of the domination of education by examinations would not be so unsatisfactory if the examinations were directed really to test the merit of the students. That unfortunately is not the case. The number of examinees, and as a consequence the numbers of examiners, are both so large that both the setting of examination papers and the system of marking the answers have become entirely mechanical and the result has been disastrous.

PARANJPYE, The Hon'ble Mr. R. P.

Universities in India do not at present afford to Indians full opportunities of obtaining the highest training. This is so practically in all branches of study, but is especially so in the sciences and modern subjects. While a period of study in other countries after reaching the highest point attainable in this country itself is very desirable, this period of study should be necessary only for the purposes of widening the outlook and of comparison. In this period the student should aim at meeting the well-known workers in his chosen field. In some branches there are well furnished institutions, but I am told that opporunities for special study by students are very few. The highest examinations of Indian universities are not much inferior to similar examinations in English universities, but the provision for teaching is much inferior and the students are not so well-grounded in their subjects though the defect may not be always vividly seen in the result of the examination.

Peoples' Association, Khulna.

Our answer to the first part of the question is in the negative. It appears to us that the existing system is deficient in the following main respects, *viz.* :—

(*a*) It does not provide for the systematic study of Indian theology and religion, thus making itself thoroughly un-national.

(*b*) There is practically no encouragement for practical application of learning, especially on account of the lack of scope for research work.

(*c*) Little opportunity, facilities and encouragement are afforded for freedom of thought or original thinking and free exercise of inherent faculties on account of the pressure of examinations and the demands of inspectors, etc.

(*d*) The present system of examination is defective, as not being the proper criterion for testing the real merit of the boys.

(*e*) Teaching and progress of study have been made subordinate to examination.

(*f*) Costliness of university education and insufficiency of scholarships to meritorious boys.

(*g*) Want of free and healthy association between teachers and students, as well as indifference to the maintenance of a high standard of character and abilities for teachers.

Peoples' Association, Khulna—*contd.*—PRASAD, Dr. GANESH—RAHIM, The Hon'ble Mr. Justice ABDUR—RAMAN, C. V.

(*h*) There is no provision for higher training in commerce, industries (in which is included agriculture) and technology.
(*i*) Want of sufficient number of well-equipped libraries and laboratories and also of seminars.
(*j*) Sufficient number of highly-trained teachers are not employed by all the colleges.
(*k*) Under the present system of university education, the health of a student, however highly gifted, is likely to, and generally does, give way, before he is able to finish his university career for the following reasons :—
(i) Want of proper provision for physical culture.
(ii) Loading of too many subjects upon the students during the earlier stages without considering their capacities.
(iii) Want of encouragement for physical attainments.
(iv) The western systems of physical exercise, especially out-door games, now resorted to by the boys, are not wholly suited to the climatic and other conditions of the country and dietary of the people.
(v) The present working hours of schools and colleges, compelling boys to attend their classes after a heavy breakfast.

PRASAD, Dr. GANESH.

The existing system of university education affords to *few* young Indians of ability *full* opportunity of obtaining the highest training.

Confining myself to the training of those who are B.A.'s or B.Sc.'s, I indicate below the main respects in which I consider the existing system to be deficient :—

(*a*) Overcrowding in the post-graduate classes in almost all the arts subjects, including pure mathematics.
(*b*) Admission, to post-graduate classes, of incompetent and ill-prepared graduates along with really able and well-prepared graduates.
(*c*) Inefficient control of the students.
(*d*) Much divergence between theory and practice.
(*e*) Absence of a proper check on young post-graduate teachers.
(*f*) The bad quality of *some* post-graduate teachers.
(*g*) So far as mathematical research is concerned, almost complete divorce between pure mathematics and applied mathematics in the courses for the M. A. and M. Sc. examinations.
(*h*) Absence of proper guidance to researchers in certain subjects.
(*i*) Want of a complete and up-to-date library.
(*j*) Want of really well-appointed laboratories in certain subjects.
(*k*) Defects of the new post-graduate scheme which came into force early this session.

RAHIM, The Hon'ble Mr. Justice ABDUR.

The existing system affords but inadequate opportunity to able students for obtaining the highest training. The system is deficient in concentration of effort and organisation of such resources as are available.

RAMAN, C. V.

As regards the subject, *viz.*, mathematical and experimental physics about which I am in a position to speak with the greatest confidence, the Calcutta University has of recent years succeeded in developing an organisation capable of affording young Indians of ability, opportunity of obtaining a training as good as that obtainable in European and American universities. In proof of this, I

have submitted to the Commission separately a memorandum* on the "Calcutta School of Physics" in which I have set out the exact position of the University as regards higher study and research in physics, and have also brought to notice such shortcomings as do exist, the reasons why they exist, and the steps necessary for their removal.

RAY, BAIKUNTHA CHANDRA.

So far as intellectual training is concerned, the Calcutta University is moving in the right direction, but there is much room for improvement in physical and religious training.

RAY, Dr. BIDHAN CHANDRA.

The existing system does not afford such opportunities as mentioned in the question. The system is deficient in the following respects :—

(*a*) Sufficient funds are not available to multiply the number of teachers who can direct and stimulate the student's interest in the prosecution of the highest studies. Further, as soon as a student obtains a degree of marketable value he has to drift to a career of earning money to keep the wolf from the door. No funds or grants on a large scale are available to enable students to continue the prosecution of higher studies. For the same reason (want of funds) materials, museums, libraries are not available which would help students to obtain the highest training.

(*b*) No great attempt has been made to develope the individuality of the student throughout his college career. A fixed course of study, a definite method of examination, etc., are prescribed for him. The teaching has to follow these closely, because in big classes and with a large number of students in them, it is impossible to direct individuals in accordance with their peculiar capacities for learning. The student may have acquired a good deal of knowledge of books and ideas, but rarely can he get a chance of developing these ideas in his own way.

(*c*) Sufficient care has not been taken in the past to institute and prescribe varied courses of study in arts, literature, applied sciences, etc., to suit individual students; nor has any determined attempt been made to place such students in the way of acquiring proficiency in the courses they follow.

RAY, JOGES CHANDRA.

No. If the existing system gave the highest training, Government would not have granted State scholarships to Indian students for study in Europe, and there would not have been paucity of research in this country. In this connection it would be well to make a distinction between mere acquisition of knowledge and training which fits a man for a wider permanent career. The reasons for deficient training are many :—

(*a*) The students and the professor do not enjoy as much freedom as would develop and foster the growth of that spirit of enquiry for which education is valued, and as would prepare the students to secure a position in life.

(*b*) The teachers now engaged in conducting post-graduate studies do not, with a few exceptions, possess the requisite qualifications for guiding students in advanced work.

* Not printed.

RAY, JOGES CHANDRA—*contd.*—RAY, Maharaja KSHAUNISH CHANDRA, Bahadur—RAY, MANMATHANATH.

(*c*) The system is also responsible to some extent for the defect, since the teachers are compelled to deliver too many lectures on a prescribed course, leaving little time for independent work.

(*d*) In many subjects the number of students taken at a time by a teacher is too large to afford opportunities for personal guidance.

RAY, Maharaja KSHAUNISH CHANDRA, Bahadur.

The existing system of university education does not afford full opportunity of obtaining the highest training. The reasons for this are that:—

(*a*) Educaton is not entrusted always to the hands of worthy men—first-rate scholars. As such, education thus afforded cannot but be unsatisfactory. The best men should be recruited for this purpose without any distinction of caste or creed or nationality.

(*b*) Specialised studies, more specially in connection with the higher courses, should be opened under expert men, and every sort of encouragement should be given to such scholars by way of scholarship and other facilities.

RAY, MANMATHANATH.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. The main respects in which the existing system is deficient from this-point of view are:—

(*a*) The best and the average student are not differentiated for the purpose of teaching. It is true that the despatch of 1854 suggested a two-fold standard, a standard for common degrees and a standard for honours; but the University then established was a purely examining body, and a double system of teaching was not insisted upon. The Act of 1904 made the University a teaching one, and under the said Act the teaching given in the colleges is liable to inspection by the University. A necessary step at the present time would be the differentiation of the best student from the average student for the purpose of instruction, as is done in Cambridge and Oxford. There should be special training for the development of the special faculties of the best student; additional lectures for additional subjects do not serve this purpose. The differentiation should begin at the B.A. or B.Sc. stage and should be continued to the M.A. or the M.Sc.; it is not possible to begin the differentiation earlier, *i.e.*, in the I.A. and I.Sc. classes because of the large number of students in those classes. The teaching for honours should be conducted by the best men, but as they are not quite abundant, the honours teaching should be centralised in and conducted by the University. This co-ordination is necessary also in view of the waste of energy involved in having honours classes in the different colleges; for in many of the subjects, the total number of students in the different colleges taken together would be less than what might be contained in a single class. Such a differentiation and co-ordination are bound to advance and foster the cause of teaching for which alone the colleges and the University exist.

(*b*) Another respect in which reform should be attempted and which is intimately connected with the subject of examinations is the undue systematisation of university courses which has resulted in the tyranny of mechanical methods. The limited extent to which the examinations in most cases test the powers of originality and of application of knowledge, and the quantitative standard not unusually adopted in the examinations divert the attention of both the pupil and the teacher from genuine study. This may be avoided by the examiner keeping in view the distinction between essentials and inessentials, as suggested by Professor Hartog in the July "Review," essentials corresponding to the power of applying knowledge and inessentials to mere memory work;

the questions should be so framed as to bring out intelligence and judgment, should encourage thoughtful writing and insist upon thoroughness, and the examiner should also have a large amount of discretion in the valuation of answers.

(c) Another allied question is that of the present heavy cost of higher education which may have denied the benefits of education and the opportunities of higher training to many young men of great promise. I would insist upon State aid to higher education to a greater extent than what has been the case up till now—the claims of higher education to State aid are not only legitimate but undisputed, and it is unnecessary to dwell at length on the educational responsibilities of the State. Substantial buildings and equipment are always desirable, but the burdens of contribution in these respects should not fall on the students. Scholarships should be more liberally provided, and scholars may have to surrender their scholarships if they do not need any help. The cost of living must be also cut down as low as possible. The moral and religious instruction advocated in connection with question 17 may also help in lowering the cost of education.

RAY, Sir. P. C.

It all depends on the teachers of the particular subjects. Speaking for my own subject, *viz.*, chemistry, I may say that a band of young men have been trained who have given proof of their capacity for original work of which any country may be proud. Three of them have taken the degree of Doctor of Science of the London University while another has been a D.Sc. and another a Ph.D. of the Calcutta University. A few more are carrying on research work of a high order. In this connection I cannot do better than reproduce here the short speech which I delivered at the last "Congress of the Universities of the Empire" in my capacity as a delegate of the Calcutta University.

"I rise, my Lord, to associate myself with the weighty remarks made by my brother delegates from the Colonies, Professor H. B. Allen (Melbourne) and Professor Frank Allen (Manitoba).

"The Indian graduate also is placed under peculiar disadvantages when he undertakes to pursue his post-graduate studies in a British university. My Lord, I plead for a more generous recognition of the merits of an Indian graduate; he has, I am afraid, the badge of inferiority stamped upon him simply because he happens to be an India-made ware. I can speak with some degree of confidence about the particular subject which I have the honour to profess, namely chemistry. Now, of late there have been some brilliant students engaged in post-graduate researches and as their communications find hospitable reception in the columns of the leading British chemical journal, I take it that they are considered as of a fair degree of merit and yet it is a strange anomaly that when the authors of these investigations come over here and aspire for a high British degree, they are made to go through the trodden path in the shape of having to pass the preliminary examinations and this has a depressing and deterrent effect upon the enthusiasm of our youths. I think the suggestion made by a previous speaker that such a scholar should only be made to pass through a probationary period under the guidance of a teacher whom he chooses and if he fully satisfies him the Colonial or Indian student should at once be allowed to go up for the highest degree on the strength of his thesis alone.

"Sir Joseph Thomson has spoken about the rich endowments and scholarships required to encourage a post-graduate scholar. The Calcutta University has already founded a good few post-graduate scholarships and expects to have more. But I beg, however, to remind the representatives of the British universities present here that we in India have from time immemorial held aloft the high ideal of plain living and high thinking and that with even comparatively poor stipends and bursaries we hope to achieve much.

RAY, Sir. P. C.—*contd.*—RAY, Raja PRAMADA NATH—RAY, SARAT CHANDRA—RAY, SATIS CHANDRA.

"My Lord, I do not for a moment claim that the teaching our universities impart is of the same degree of efficiency as in the sister British universities—in fact we have much to learn from you—but I beg leave to remind you that inspite of their many defects and drawbacks, our universities have produced some of the brightest ornaments of our country. The foremost lawyer of Calcutta—a man renowned throughout India for his high forensic attainments—is a graduate of the Calcutta University. Three of the most eminent physicians and surgeons of Calcutta, who have attained to phenomenal success in their professional career are, again, graduates of my own University and last, but not least, the present Vice-Chancellor of our University, who enjoys the unique distinction of being three times in succession elected to his onerous duties by the Chancellor of the University, who is no other than the Viceroy himself,—I say, Sir A. T. Mukherjee is also a product of the same University.

"My Lord, before I resume my seat I once more plead for a more generous recognition of the teaching imparted in our colleges."

RAY, Raja PRAMADA NATH.

The existing system of university education does not afford to students of ability full opportunity of obtaining the highest training. It is deficient principally in men, that is, all the colleges do not get the advantages of the best professors available for the simple reason that there is no chance of having inter-college lectures and every college cannot be expected for obvious reasons to have on the teaching staff the best available professors on all subjects.

Besides, till recently Calcutta University used to be a sort of federal examining board which necessarily subordinated teaching to examination.

RAY, SARAT CHANDRA.

I consider that the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training.

The existing system is, in my opinion, deficient from this point of view in the following respects:—

(*a*) The existing standard is low :—the books recommended are seldom read, students usually get through examination, depending mainly on notes. This system should be dispensed with.

(*b*) Better and more efficient professors, with higher salaries and higher prospects should be appointed for teaching the higher standard.

(*c*) Communion between students and professors is wanting.

(*d*) Special classes should be formed for teaching higher standards.

(*e*) Higher standards referred to above should be considered as honours course from the intermediate examination upwards.

(*f*) There are no regular research classes for post-graduate students. Such students should be given full facilities for research work in university institutions.

(*g*) Such classes of higher standards and of researches should be formed in important colleges, such as, Presidency, Rajshahi and Dacca colleges.

RAY, SATIS CHANDRA.

The present system contains within it the germ of a great university, but it is not yet fully developed. I cannot say that it affords to our young men *full* opportunity for the *highest* training; for opportunities for studying many subjects, such as agriculture, commerce, mining, railway engineering and management, etc., do not exist; and such as exist do not give the highest training in the subjects taught.

RICHARDSON, THOMAS H.—ROBERTS, DAVID E.—ROY, HIRA LAL

RICHARDSON, THOMAS H.

No, higher university training involves much more than learning.

When you have students with different points of view, different ideals, taking different courses, recruited from various social classes and from widely separated parts of the country a very large portion of the university training takes place outside the class-room.

Indian universities have never attracted students from the upper classes or any except those to whom a degree or certificate has a money value. The universities only draw from one province, its colleges only from one district or town and, being scattered through the province, students do not come in contact with those of other colleges.

ROBERTS, DAVID E.

The present system of university education does not, in my opinion, afford to Indians of ability opportunities of obtaining the highest training. This is due to the low standard of admission into the University and to the low standards necessary of attainment to pass the subsequent intermediate and final examinations. The low standards are maintained to meet the necessity of securing a pass to the average student whose name is legion and whose initial qualifications do not render him fit for university courses. The result is that able students take four years to attain a standard of knowledge which should be attainable in three years at most even supposing them to take honours courses in subjects new to them on their entering the University. In science courses the standard is particularly low. The Intermediate is a school course and the degree course a comparatively elementary one with a low passing standard at that. Much of the M. Sc. course should be included in an honours course. Students may spend six years in the University and yet leave it with no, or very little, acquaintance with post-graduate work, as it is understood at home.

ROY, HIRA LAL.

The existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. The standard of examination is rather high, but the choice of subjects is not elastic, and the education imparted is not sufficiently wide. From my point of view the defects are due to the following causes:—

(*a*) Use of English as the medium of instruction even at the early stages. This point will be more fully discussed in answer to the question 11.

(*b*) Omission of science from the school curriculum.

(*c*) Early specialisation (or what would be better termed a "want of generalisation") in school and college departments. Elementary sciences should be taught in schools, and history and geography should be made compulsory subjects for study and examination. This can be carried out without much additional strain on the students if vernacular be used as the medium of instruction and if the "compartment system" of examination be adopted. Students need not appear for examination in all the subjects in the final year. Similarly, I would like to increase the number of subjects taught in the college with a modified form of elective system and the same method of examination as recommended above. This will give the undergraduates a wider culture. Here a question may be raised whether we would not thereby lower the standard of the subjects taught. Certainly not, if the members of the Commission look carefully into the question papers set for the B.Sc. and M. Sc. examinations, it will be clear to them that the examiners are very fond of details. We do not want our students to be living encyclopædia.

ROY, HIRA LAL—*contd.*—ROY, The Hon'ble Rai SRINATH Bahadur—ROY, The Hon'ble Babu SURENDRA NATH—RUDRA, S. K.

If the scholars have a sound grounding in the fundamental conceptions of the subjects, then for details they can refer to any standard works. The members of the Commission will be surprised to learn that the students preparing for the M.Sc. examination in chemistry commit to memory the contents of two volumes of Richter's Organic Chemistry and Roscoe-Schorlemmer's standard works on inorganic chemistry. We should want our young men first to be cultured gentlemen and then specialists.

(*d*) Limitation of the number of students admitted in the B.Sc. and M.Sc. classes should be done away with. No student should be refused admission in any course provided he has the required qualifications.

(*e*) We should cut down our standard of English and make in its stead a tolerable reading knowledge of French or German compulsory for candidates for B.A. and B.Sc. degrees.

(*f*) Essays and thesis (not necessarily original research work) written during the year should form a part of the examination. And writing of essays and thesis should be made compulsory, for they will make the students acquainted with the literature on the respective subjects.

ROY, The Hon'ble RAI SRINATH Bahadur.

No. Real knowledge is subordinated to passing of examination for which generally cramming is resorted to. There is no opening for test of real ability and its developments.

ROY, The Hon'ble Babu SURENDRA NATH.

No. There is no proper culture in the present system of education.

RUDRA; S. K.

The answer to the first part is 'No,' though there are remarkable instances of individuals who have attained to unusual excellence in their subjects, even under the present system of training.

The answer to the second part is as follows:—

(*a*) *Tuition through a foreign medium.*—This is a great difficulty. The soul and the understanding of the students are not reached through the English medium satisfactorily. The subjects of study fail to rouse a real healthy intellectual interest which is involved in an efficient university training. Learning becomes a matter of superimposition and fails to co-relate itself to the facts and problems of life and society.

(*b*) *Emphasis on examinations.*—The universities are now primarily examining boards, not homes of learning and culture and fellowship. As a consequence, examinations loom large and cover almost the entire field of vision. The whole system of education is thus greatly vitiated.

(*c*) *Expert teaching by specialists and personal guidance almost impossible.*—This is due to the absence of inter-collegiate lectures which in its turn is due to the isolation of colleges. The consequence of this isolation of colleges is the extraordinary phenomenon of each college attempting to teach every subject or a very large variety of subjects prescribed for examinations from the intermediate to the degree standards and even the post-graduate subjects, with an inadequate staff who are lecturing three hours a day on diverse subjects, large and varied in range, and sometimes not co-related to several different classes of students so large in size that very little personal acquaintance of students and lecturers is possible.

RUDRA, S. K.—*contd.*—SAHA, MEGHNAD—SAHAY, Rai Bahadur BHAGVATI.

Co-operation between colleges is not easy as the general efficiency of the staff of one college is different from that of another. In the last analysis this is largely a question of finance. If an inter-collegiate system of lectures were possible specialist lecturers in sections of a subject would be employed, and then there would be a real chance of having a high order of training.

Similarly, for establishing personal tutorial guidance of students the classes should be of a reasonable size, say 30, and this again is a matter of finance.

(*d*) *Set books for examinations.*—A great deal too much stress is laid on set books for examinations.

SAHA, MEGHNAD.

Under the existing system, the University provides very little, and in certain cases almost no facility for those who want training in the following branches of knowledge :—

(*a*) Agriculture.

(*b*) Engineering ;—electrical, mechanical, and civil. There is of course a Civil Engineering College at Sibpur, but this single college is quite inadequate for the needs of the Bengal Presidency.

(*c*) Music and painting.

(*d*) General industrial subjects :—such as technological chemistry (including chemistry of synthetic dyes, soaps, fats, and pharmaceutical chemistry), metallurgy, leather industry, mining, etc.

(*e*) Modern European languages :—such as German, French, Russian and Italian.

(*f*) Modern Indian vernaculars :—such as Hindi, Mahrathi, Telugu, Gujrati, Canarese, etc.

SAHAY, Rai Bahadur BHAGVATI.

The existing system of university education does, in theory, afford to young Indians full opportunity of obtaining the highest training.

But, as a matter of fact, only a few Indians avail themselves of this opportunity. This is however a defect for which the existing social and economic conditions of the country are mainly responsible, the university system being responsible in so far only as it does not discourage the scramble for a university degree for purposes other than those of learning and culture.

So far as this defect is due to social and economic causes, time alone will remove it, but a great deal may be done in that way if the University Regulations be specially directed against it.

To illustrate my meaning, I would point to the Regulation that allows for a degree in arts the different combinations laid down in paragraph 6, Chapter XXXII, of the Regulations. A B. L. candidate may have, for instance, for his two optional subjects in the B. A. examination, a classical language and mathematics or mathematics and chemistry. Obviously, such a combination is not a suitable preparation for a B. L. candidate. I think that political economy and political philosophy and mental and moral philosophy will be more suitable subjects for a B. L. student. Again, a candidate for the B. T. degree may choose for his B. A. degree, a classical language and botany or mathematics or physics. A B. T. must indeed be a physicist, a chemist, a botanist or a classical scholar if he is to teach physics, chemistry, botany or classics, but these should be his compulsory subjects in the B. A. examination, for his optional subjects for that examination must be such subjects as history and mental and moral philosophy which give an insight into human nature and operations of the mind and afford a groundwork for the teaching profession. Clearly, these are not the subjects that one who is to shape and mould the mind of the student should take up. Such a choice of subjects is an abuse of the privilege of the option allowed. True, one must choose one's subjects according to one's inclinations, tastes and capacity ; and it would indeed be an intolerable tyranny

SAHAY, Rai Bahadur BHAGVATI—*contd.*

to restrict one to any other combination ; but where a B. A. degree is sought as a means to obtain another degree—a B. L. or a B. T. degree or a degree of Master in a branch of learning, it stands to reason that a candidate for the preliminary degree ought to take up such a combination as will give him the knowledge and training necessary for his ultimate degree. In the absence of such a restriction, a candidate for a B. L., a B. T., or an M. A., degree takes for his B. A. degree any combination that suits him best for obtaining the B. A. degree ; and this is almost always the combination that is easiest for him for the immediate purpose of obtaining a B. A. degree.

If a statement were prepared showing what subjects the B. L.'s, B. T.'s and M. A.'s of the Calcutta University had taken for their B. A. degree, it would throw a flood of light on university education in the area administered by that University. Such a statement will, I hope, conclusively prove that university education is sought not as an end in itself, but as a means to an end—the end, namely, of earning a living. I do not at all mean that university education should not be a means of earning a living or that university men should have no need to earn a living and should pursue knowledge for knowledge's sake only ; what I do mean is that the object of university education, under the existing system, is, in the great majority of cases, *primarily* the earning of a living and not knowledge or culture.

As long as there is no demand for special knowledge and skill for the different callings in life or for special institutions to supply these, or as long as the education that one can get in a university, serves somehow the purpose of the different professions and university education is a passport to employment, this state of things will, I fear, continue, be the University Act what it may, but it can be slightly altered by more exacting conditions, a more searching test, and a body of abler and more enthusiastic professors.

If any proof were wanted of the accuracy of my diagnosis of the weakness in the existing university system, I would point to the cry of the "Slaughter of the Innocents" that follows any strictness in the university examination resulting in a low percentage of passes. Such a cry would have no meaning if university examinations were regarded solely as tests of intellectual fitness and not as passports to various employments, for, if determination of attainments and culture were the objects of university examinations I do not see how he who is declared to have failed in the test suffers. Surely, the *fiat* of a university that he does not, in its opinion, come up to its expectations, does not detract from his worth if he has it really. But it matters a great deal if the hall-mark of a university has a commercial value.

The existing system is thus defective in its *practical working*, for, in effect, it is subordinated to the material welfare of the student *for the time being*.

If there were separate and self-contained institutions for imparting technical knowledge and skill and giving at the same time the preliminary general knowledge and culture needed for it, not only would the pressure on the University be relieved but the work done there would cease to be dominated by extraneous considerations and would thus be done far better ; and since a university degree will always be an acquisition to any profession, and men with such degrees will easily find admission at suitable stages to special institutions, university men will not, by reason of the necessity of their acquiring technical knowledge and skill elsewhere, be at a discount ; while the men who have neither the time nor the means for university education will not be found, as they are so largely found now, availing themselves of it, only to qualify themselves for a profession, to considerable detriment to the University, to the profession and to themselves.

I would therefore recommend an institution of law, an institution of pedagogics, etc., a university of these if you like, but quite distinct from a university of science and art. An omnibus university is, in my opinion, foredoomed to failure, whatever be the system of its administration. In any country other than India, university men among civil servants, engineers, doctors, even lawyers, are more an exception than a rule, but in India it would be difficult to find a profession every member of which does not hold a university degree ; even in the higher grades of ministerial services, a university degree is largely in evidence.

SAHAY, Rai Bahadur BHAGVATI—*contd.*—SANYAL, NISIKANTA—SAPRU, The Hon'ble Dr. TEJ Bahadur.

The remedy that I propose is a remedy not only for reclaiming university education, but it is a remedy for the growing economic evil also—the evil, namely, of the great army, of the university-educated men unable to find an employment, and this is also a grave political evil.

SANYAL, NISIKANTA.

The highest university training in any subject is that which makes a young man of ability fit for carrying on original investigations in that subject. No such training is available or possible for Indian students of history whose training has been exclusively Indian. The defects of the existing system are due to—

(*a*) Inadequate training of the matriculates.
(*b*) Defective staffing and equipment of the colleges.

SAPRU, The Hon'ble Dr. TEJ BAHADUR.

I do not think that the existing system of university education affords young Indians of ability full opportunity of obtaining the highest training. In answering this question I must say that I must be understood to speak with special reference to the Allahabad University. I do not feel also competent to express any opinion positively with regard to scientific subjects. Confining myself, therefore, principally to the arts side of university education, I have a few observations to make. The outstanding defect of education as imparted in our colleges under the guidance of our universities is that it fails to draw out the best that is to be found in our students. The bane of university education in India is, and has been, that both the professors and the students have made a fetish of examinations. Critics of Indian education have frequently made this observation and, though it is supposed that since the reorganisation of the universities under the Act now in force the standard of education has been raised, I am afraid the results achieved are by no means substantial, nor do they justify the claim that is made that education is much more efficient than it was before the Act of 1904. Rules and regulations have been multiplied. Curricula have been increased and probably examinations, too, have been stiffened, but I very much doubt whether the graduates of to-day are in any marked degree superior to those of an earlier generation. The fact is that while too much administrative zeal has been shown, there has been little exercise of judgment from the true educational point of view. I strongly maintain that the basis of education should be other than political and unless the element of political bias is removed, I do not think that it is possible to effect any real improvement in education. I am strongly in favour of efficiency all round. But I do not understand efficiency to mean the same thing as the official mind does.

In the last degree, it seems to me that true progress in education must depend on the character and calibre of our teachers. Unless they are men with high ideals, wide culture and broad and genuine sympathies, I do not think that they can influence young minds effectively. I am afraid I cannot say that many of them are men of this type. Much of the teaching in our colleges is mechanical. Both the professors and the students, generally speaking, aim at one thing more than any other thing and that is success at the examination. I have known high-placed professors stuffing the minds of students with copious notes, not with a view to helping them in broadening their outlook, but to passing the examination. I have also known students of advanced classes confining themselves either to such notes or catechisms to the exclusion of the text-books. There is very little of personal contact between the professors and the students. I doubt whether in many colleges the professors know anything of the students outside the class room. The European professors must cultivate a habit of genuine sympathy with their students and give up a great deal of their aloofness. I do not believe that there are any serious barriers on account of social customs or manners which prevent a nearer approach between the two. So far as the Indian professors are concerned they can, and in some cases do,

SAPRU, The Hon'ble Dr. TEJ Bahadur—*contd.*—SARKAR, AKSHAYKUMAR.

influence their pupils, but even they do not always rise equal to the conception of their duty in this respect.

I shall take up history and English literature to illustrate my meaning. Much of the knowledge of history which our advanced students possess is scarcely better than a disconnected mass of important events and dates. Their perspective of the great events in history, of the large movements in the realms of thought or action, is scarcely correct and there is no desire or inclination to investigate facts which are still open to investigation. It is most noticeable unfortunately in the case of Indian history. The presentation of Indian history, I regret to say, by some English writers is much too dogmatic and one-sided and too much confined to the rise and fall of ruling dynasties or internal military quarrels or foreign aggressions. So far as the connective tissue of Hindu or Muhammadan civilisation or culture is concerned, most of the books prescribed by the universities give a very inadequate notion of it, and our professors (there are no doubt exceptions) are scarcely able to supplement these books by any illuminating lectures of their own. I also consider that it is necessary for Indian students that they should have a very thorough and correct knowledge of English history. But English history is at a discount in India. I believe the study of it is discouraged because it is supposed to foster democratic ideas and tends to alienate young minds from authority. To my mind the best corrective for false political notions is English history, if it is properly presented and explained. Passing to English literature, I find that the condition of things is scarcely better. The knowledge of the students of even advanced classes is very limited. There are very few of them who care to travel beyond the text-books prescribed for them and in studying the text-books themselves they have again to fall back either upon the notes of the professors or upon annotations published in various parts of the country. What is known as a critical study of any author really means nothing more than picking up a few telling sentences or striking phrases from some book of criticism without any real attempt at entering into the spirit of the author or appreciating his point of view. I am forced to make these observations because, of my personal experience both as a student twenty-five years ago and as one who is directly responsible for the education of some boys, I do not think that any real interest in literature is awakened in the students by the professors. It is more or less the same in the teaching of philosophy or economics. I would, therefore, make the following definite suggestions:—

(*a*) The universities should not prescribe text-books in history, literature, philosophy or economics. Only the syllabus should be prescribed and the authors and books recommended.

(*b*) Professors of a superior quality should be employed.

(*c*) The tutorial system should be introduced and encouraged.

(*d*) There should be more direct personal touch between the professors and their pupils.

(*e*) The number of subjects for the B. A. examination should be reduced from three to two. On the arts side until education in our secondary schools is improved, I would insist upon each student taking up English literature and along with it one other subject such as philosophy, economics, or history. In course of time when the entire system has been thoroughly overhauled and education in schools has been really improved, I would welcome the reduction of subjects to one.

(*f*) Examinations should be conducted more with a view to testing the capacity and general culture of the student than his memory.

SARKAR, AKSHAYKUMAR.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training.

Under the present system education is imparted by completely separate units—colleges, except in the case of post-graduate teaching—under some sort of supervision of the University. The University prescribes the course of study and holds the examinations, and provides for proper teaching by regulation and inspection.

SARKAR, AKSHAYKUMAR—*contd.*

Thus the autonomous units—the colleges—arrange their own routine of work, appoint their staff, select the candidates for the examinations and manage their other internal affairs—accommodation, residence, finance, discipline, etc., under the control of the federal power of the University.

Thus the functions of the University are to be classified into :—

(*a*) Teaching (directly or indirectly).
(*b*) Examination.
(*c*) Supervision.

In all these respects the actual working of the University is more or less defective as will be apparent from my answers to questions 2, 5 and 9.

Here I generally mention that the rules prescribed for the above works are often excellent, but the actual working is at fault. In some cases—specially with regard to teaching (see my answer to question 2)—the rules are also defective.

Teaching.—The University attempts to provide for proper training by prescribing the curriculum and syllabus and selecting text-books, by insisting on qualified teachers, by enforcing a minimum number of lectures and a suitable supply of apparatus and books at the command of the teachers and the students.

The University requires qualified teachers to be appointed by the colleges. It does not allow affiliation unless a professor with the minimum qualification (a second class M.A.) is in charge of a subject. But this minimum qualification very often remains the maximum in some of the colleges where constant change in the staff is rather the rule than the exception. The University does not possess sufficient control over the colleges so as to have an effective voice with regard to the appointment, dismissal, retention, recognition, or remuneration of the staff. The low remuneration, the uncertainty of the tenure of service, the complete disregard of the future provision and present status of professors in many of the colleges seriously hamper university education. It is notorious that excepting in a few cases of missionary spirit, the profession at present is only a *viâ media* for most. Even in the Government colleges, the best graduates of the year are not attracted (see answer to question 2). In private colleges the staff is composed of a motley group of good, bad, and indifferent men of whom every one is eager to better his lot by shifting himself somewhere else, to Government service or other professions, as soon as opportunity occurs.

It is essential for the University in the interests of education to control the staff of all the colleges under it. This is also desirable from the points of view of homogeneity, harmony and economy.

Lectures.—An hour's or 45 minutes' coaching work is falsely ennobled by the name of lecture under the Calcutta University. I find the following constituent elements in a lecture—compulsory attendance of the students, giving notes or reading and explaining passages (seldom throwing any new light on the subject but merely summarising what is in the text-book or other available books, or making the students understand a passage without the least thought or exertion on their part), pointing out important passages (more often from the point of view of examination than learning) and giving ready-made answers to the possible questions in the university examinations by the professor. There is seldom any discussion, any attempt to create initiative and enthusiasm in the mind of the student, and the class-room work becomes mere drudgery to the student as well as to the lecture.

This is due to :—

(*a*) The examination system laying undue importance on the mastery of certain text-books (see my answer to question 9).
(*b*) The quality of the students who are hardly able to follow a lecture (see my answer to question 8).
(*c*) The false aim of the students who want not to learn, but merely to pass the examination.
(*d*) The excessive number of lectures required to be delivered by the University. Very few of the books prescribed can bear so many real lectures (at least in history). Here there is a confusion between the lecture work and coaching work.

I think that one lecture a week followed by four tutorial sittings, the attendance to which should be optional on the part of the students, would be more favourable to the development of a spirit of enquiry than the present system.

(*e*) Want of leisure for the teacher. He is very often to work in the class room for 18 hours a week and to deliver 18 so-called lectures per week. Sometimes the same man is to manage four classes from the first year to the fourth year, and to lecture on such diverse papers as:—

(i) Modern European history.
(ii) Hindu, Muhammadan, and British periods of Indian history.
(iii) A period of English history (see the B.A. course in the University Calendar).
(iv) English history.
(v) History of Ancient Greece.
(vi) History of Ancient Rome.

(*f*) The tradition and atmosphere also have caused the lectures to degenerate into their present low status. The students would cite the instances of the best and the most learned professors, European and Indian alike; they will say that the same method has produced some of the best graduates and the most learned alumni of the University; and over and above all, they would point out that they have come to pass the examination and not to be learned men.

There would be a revolution if a lecturer delivered only general lectures on his subjects, throwing new light on it or presenting to his students the up-to-date knowledge gathered by him. The student would be certainly indifferent to the learned lecturer and sometimes would be intolerant of his learning as prejudicial to his interest in passing the examination.

Suitable supply of apparatus and books.—The libraries in many colleges, even in some Government colleges, are sadly deficient in books. Very seldom do they keep pace with the progress of knowledge. Very often books which have become classical in a subject, are not found in the college libraries. My direct experience of four colleges enables me to say that in all of them, at least in history, economics, and politics, the libraries were and are sadly deficient in stock.

Examination.—(See my answer to question 9.)

Supervision.—(See my answer to question 5.)

SARKAR, BEJOY KUMAR.

Here the word "training" requires first to be defined. In its most comprehensive sense, training means the training of the body, the mind, and the spirit. Training may also be either liberal or technical.

Physical, moral, religious and technical training has little, if any, scope in the existing system of university education.

Liberal education for which there are fairly good arrangements for the highest training suffers from the cumulative effect of a deficient system of teaching and of examination from the very commencement of a boy's education. The spirit of enquiry and independent thinking is scarcely ever fostered in our schools and colleges. The Indian student is generally made to remember much and think little for himself. He is thus often a store of information and nothing else. His mental powers are not generally fully developed. Our education is also defective in that it is mainly theoretical and divorced from life. It is only book learning and has little reference to the concrete facts and realities of the world. So even in this field of intellectual culture our education is defective because of a bad system of pedagogics and examination tests, and the divorce of training from the actualities of life.

SARKAR, GOPAL CHANDRA—SARKAR, KALIPADA—SARMA, The Hon'ble Rao Bahadur B. N.

SARKAR, GOPAL CHANDRA.

My answer is in the negative.
The existing system appears to be deficient for the following reasons :—

(*a*) Owing to the unmanageable numbers both of institutions affiliated to the University and of their students, neither the teaching nor the examining functions can be fulfilled satisfactorily.

(*b*) Teaching is largely regulated by the standard demanded by the university tests which are generally adapted to the degree of proficiency attainable in the weaker affiliated institutions.

(*c*) Students cannot come under the influence of the University through want of residential arrangements and because of the distance of most of the colleges from the seat of the University which, as at present constituted, is not an organic whole.

(*d*) A federal university like that in Calcutta must necessarily be more an examining than a teaching body.

SARKAR, KALIPADA.

No. 11.

(*a*) A teaching university is required for the purpose. The Calcutta University was formerly a purely examining body. Even now it is mainly so.

(*b*) The teaching is done by schools and colleges, which, in the majority of cases, cannot maintain for want of funds, highly qualified staffs. So, even if the University were to prescribe a high standard of tests, it would be difficult, and in many cases impossible, to attain it in individual schools and colleges. Thus both ideals and funds are wanting.

SARMA, The Hon'ble Rao Bahadur B. N.

I do not consider the existing system affords full oportunity. The existing system is deficient :—

(*a*) In that the requisite funds are not forthcoming.

(*b*) there is no proper organisation and no pooling of the resources of the several colleges situated in large centres of population like Calcutta, Madras and Bombay.

(*c*) The lack of the true university spirit both amongst the teachers and the taught.

(*d*) The artificial system into which even good men from Europe are champed by a stifling racial protection, a lack of the true competitive spirit and the absence of facilities.

(*e*) The lack of opportunity for even the best Indians to rise to their highest level, the stifling atmosphere of inferiority and discouragement and a feeling in some responsible quarters that the Indians should be kept at a proper level, lest they should think themselves equal to the westerners. The best men whether from Europe, America or India, in the subjects desired to be specialised in should be brought in, though for temporary periods. Such men should be encouraged to keep themselves in touch for a time by residing in those centres of learning during a portion of the year. Under the present system of departmental promotion and organisation with regular service, such men it is to be feared cannot be secured.

Even potentially good men degenerate into second class tutors, and there is an unnecessary wastage of the limited ability available in the presidency centres. The presidency towns and other large centres like Trichinopoly to a certain extent resemble centres of educational activity in England and an attempt may be made as is being attempted in the Patna University scheme to encourage professors to specialise in special subjects and lecture to the pupils as university professors.

SARMA, The Hon'ble Rao Bahadur B. N.—*contd.*—SASTRI, Rai RAJENDRA CHANDRA, Bahadur—SAYIED, ABDULLAH ABU—Scottish Churches College Senatus, Calcutta.

There can be no true university atmosphere so long as responsible men look outside India always. The indigenous agency must slowly fill the field and there should be absolutely no barrier whatsoever in the way of deserving men. Even at a temporary sacrifice of efficiency which I do not fear would result. The whole educational machinery should be run by the best experts from the world and men prepared to be domiciled in India The ancient literary classes amongst the Hindus and the Muhammadans preferred poverty and learning to riches; and the spirit is not dead. But the stifling spirit of inferiority and the concomitant discouragement prevent young devoting themselves entirely to learning; and the causes should be removed if any improvement is to be looked for.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

In my opinion, the existing system affords ample opportunities to Indians of ability of obtaining a very high degree of teaching in certain, if not in all, subjects covered by the curriculum of the University. The existing system, specially the system of post-graduate teaching recently introduced, has not had yet time to develope itself, and it would perhaps be premature to pronounce on its merits. There is, however, not the least doubt that the new system is a very great improvement on the old one and when its shortcomings have been detected and remedied in the light of experience, it should satisfy all reasonable exceptions regarding its possibilities.

SAYIED, ABDULLAH ABU.

The existing system of university education does not afford, in my opinion, at least in arts subjects, full opportunity to promising Indian youths for highest training. The arrangements at present for post-graduate teaching are not up to the mark, and with its present concentration in the University College, it has brought together a large number of students differing greatly in their capabilities and individual attainments, which cannot but tend to make lectures and teaching dwindle to a dull level. Earnest students of ability for whom such classes are primarily meant, naturally do not obtain adequate guidance and attention, with the result that those who can afford are compelled to resort to European universities for higher training. It seems to me necessary that some system need be evolved which not being mechanical, should at the same time effectively check and weed out students of indifferent capacity from the post-graduate section and thus enable the university professors to concentrate themselves in training the few promising youths in their respective subjects.

I must say that there is a great dearth of men of first-rate ability in our University, whose association with the students is essential before we can expect their mental faculties to have full play. We lack men of "recognised standing" whose personal guidance may be a source of inspiration to earnest students, so that when they leave the University they carry in their minds an indelible and lasting impression due to their contact with such academic teachers and the impetus received from them in seminar studies. I am fully cognisant of the fact that it is difficult to secure men of the above calibre and persuade noted savants to take up work in a university like that of Calcutta, but every effort should be made and no money should be spared for this purpose.

Scottish Churches College Senatus, Calcutta.

1, 8 and **11** (ii) (*a*). Young Indians of ability, under the existing system of university education, can and do obtain very high training but they are hampered throughout their course by the overcrowding of the colleges and by the waste of energy in the classes in dealing with students who have no real capacity for college education.

Scottish Churches College Senatus, Calcutta—*contd.*—SEAL, Dr. BRAJENDRANATH.

The high school leading to the matriculation examination is the only avenue to higher education in Bengal. In a very large number of cases these high schools have been begun and carried on through the energy and at the expense of private individuals. The people are determined to have education and are willing to pay for it and the result is that crowds of boys of very different ability reach the matriculation stage. To bar them out by simply raising the standard will not serve, and it cannot be done. The high school system must be so changed that while the schools are strengthened and the standard of the matriculation examination is raised, there shall be a bifurcation of studies making it possible for the majority of pupils to take up a modern, scientific and practical course such as would give a good general education. If the school-leaving certificate were recognised by Government and by business houses as a satisfactory preliminary to their own tests, the crowds asking for admission to our colleges would soon reach manageable limits, and they would consist of those able to profit from a college course.

A bifurcation of this sort has been attempted in Government schools, but in too feeble a fashion and it has not received the support that it is worth and which is absolutely necessary. The standard of teaching in the best high schools, in fact in all, has, during the past ten years, greatly improved, but no Bengali parent would allow that his son could profitably stay in even the best of these schools for another year after passing the matriculation examination. His belief is that the school can do no more for him. The first year classes in our colleges contain large numbers of students who have heard no English properly read and comparatively little of it spoken in any fashion. For weeks in these classes they have to struggle both with the subject matter and with the English medium and this too in spite of the pains taken to make things clear. Students of real ability soon overcome these difficulties and if their teachers in college could concentrate on such students, much more effective and advanced work could be done. A reform of this nature would radically change the whole college course and make it possible to secure for those who remain the very highest training.

We are of opinion that if the bifurcation suggested were carried through, it would be possible to raise the matriculation standard very considerably, perhaps up to the level of the present Intermediate.

SEAL, Dr. BRAJENDRANATH.

The highest training which a university seeks to give its alumni may be of different types :—

(*a*) It may be training in all that goes to the making of a gentleman with the virtues and accomplishments of his class, one fitted to be a leader of public life and public opinion, and perhaps to be a hereditary legislator or member of a ruling class.

Other ideals consciously pursued by systems of national education have been Brahmacharjya, the *mens sana in corpore sano*, or in contemporary culture, the educing of a free personality or a civic sense (or conscience).

In Bengal, at the present day, there is no note of individuality, no stamp of native genius, in her educational system or her cultural ideal. The soul of the people finds no place in her university, and civic ideals, old or new, cannot grow except in free and open view of expanding vistas of civic responsibility and social service.

And yet a certain social status, credit, respectability, is conferred by a degree of the Calcutta University, and something of the old esteem for the pursuit of letters centres round the New Learning. The rough and ready standards of the 'marriage market,' the eugenics of the people in all countries and all ages, are an index to this new order of social respectability. And indeed, even apart from money values, the test has worked successfully as a token of social currency. In other words, a training in the University does ensure, in a fair measure, the conditions of social leading, such as a character (in the

SEAL, Dr. BRAJENDRANATH—*contd.*

Indian sense of personal purity and honesty), an awakened intelligence, and the rudiments of a public spirit. So much must be entered on the credit side in any stock-taking of university education in Bengal. Financially, this education has ceased to be a profitable investment in many cases, but socially it has in some measure made good its claims, and that is due to the fact of the Bengali *bhadralog* being and having always been a literate if not literary class.

(b) The highest training may aim at knowledge for knowledge's sake, a liberal, catholic culture, free and disinterested, without reference to the conduct of civic and social life, and without import of vocational adaptation.

Now strange as it may seem, the University of Calcutta, in spite of manifold deficiencies as regards our secondary as well as higher teaching, has to some extent kept in view the pursuit of pure knowledge on a scholastic basis (as distinguished from independent creation or construction) and I could count a dozen or score of men of a catholic cosmopolitan culture among its alumni. The synthetic (and also eclectic) temper and genius of the Bengali mind explains this in part, but it has been equally due to the fact that in our B.A. curriculum we have always insisted on a broad-based and many-sided course of study. Our graduates, both pass and honours men, have to study three different subjects of the college grade. They are not mere Polls, and, in acquired knowledge of an academic grade, are quite the equals of their fellow-graduates in western universities. Indeed, our advantage in correlation of studies is one that must not be lightly sacrificed. It marks a real step forward in the idea of a modern liberal education.

This claim will be challenged, I know. 'Babu English' and 'cram' are the charges hurled indiscriminately against the Bengali graduate to prove his want of education, not to say culture. Now considering the facts relating to the distribution of the linguistic capacity in individuals as well as among races of men, the marvel is that so many Bengalis learn to write English, a difficult foreign idiom, tolerably well. After all, grammatical correctness of a sort is all that is necessary or feasible. To strain after an immaculate purity in the Bengali's English is—to cry for the moon! For the rest, the oriental cast of the English which Indians use is inevitable. In this matter, it is high time for Englishmen to make up their minds to be imperial or insular—one or the other, for they cannot have it both ways. Regional variations of English among peoples of different thought-structure and different cultural tradition, in veldt or bush, in prairie or deltaic plain, in the wide, wide world, are among the incidents of England's imperial responsibility. These the Englishman must learn to tolerate, if not to pardon, to the infirmities of the Gentile! The Indian cannot change his thought-syntax, his emotional nuances, his trains of association, imagery, analogy, to suit the temper of the Anglo-Saxon, and even the best of us, the men with the supreme gift of expression, a Keshubchandra Sen or a Rabindranath Tagore, will write English which, after all, is "Babu English" *in excelsis!*

The habit of cram has a bearing on the Indian student's deficiency in English composition. The proneness to get by heart pieces of English writing which the student must use in the examination hall to be able to answer rather longish question papers in the short time allowed is a natural fault: many boys, even of great natural parts, do not possess sufficient linguistic aptitude to be able to handle in a foreign language of an entirely alien idiom the kind of topics, often of a distinctly literary character, which find a prominent place in the examination papers. And in the matter of acquiring facility of composition in a foreign language, the memorising of passages in prose as well as in verse is not an altogether unintelligent or futile practice.

SEAL, Dr. BRAJENDRANATH—*contd.*

From the standpoint of pure knowledge or science, our real deficiency—apart from our commiserable predicament as regards the medium of instruction—lies in a different direction. The course of liberal education through which every graduate of this university is intended to pass may be divided into three stages :—the lower school course with the matriculation as the terminus, the higher school course (corresponding in standard in a broad general sense to the Lyceum, the Gymnasium or the Gakko) with the intermediate examination at the end, and the university course proper leading to the B.A. or B.Sc. (pass or honours) degree on a three-subject (tri-dimensional) basis. In any such scheme of pure liberal education it is essential that apart from the *training* of the senses, the imagination and the will, and if the body, the hands and the vocal organs, the first two stages should comprise, in addition to English which with us takes the place of a classical language, the student's own vernacular and the classical language to which his vernacular and his culture-tradition are filiated, as the linguistic minimum (at any rate on the humanistic side), and an elementary knowledge of matter, its constitution and general properties, of living things, their essential structure and functions, and of man, his making, history and habitat,—together with the use of those two keys to all precise and methodised knowledge, logic and mathematics. In the third stage should come a bifurcation into a predominantly humanistic and a predominantly naturalistic course, but not exclusively either, and correlating and co-ordinating, as all modern culture must, cognate studies or branches of knowledge in groups of two or three ; for a degree in arts or science, or, better, simply for a Baccalaureate. This may or may not be followed by a *higher graduate* course (not a *post*-graduate one yet, in any real sense of the term) of which specialisation of study is the keynote, as in our M.A. and M.Sc. courses. Attached to these there are to be seminars, but the fellowships, doctorates, and other endowments or recognitions of actual research (or constructive culture) in the University will be open only to the select few among the graduates, whether Bachelors or Masters, who have the special ability for this kind of work. But the Master's degree as such does not carry any such implication in our university no more than it does elsewhere : it is to be judged only by its cultural value.

Such is our intention, but there are flaws, well-nigh fatal, in its actual working. The elements of the physical and natural sciences find no place in the matriculation curriculum, and are optional in the intermediate stage. The History of England, not a *very* insignificant chapter of human history, nor *very* irrelevant for England's dependency, is a sealed chapter to most Indian under-graduates. With nothing in the nature of object lessons or everyday science or natural history in the school course, and with no manual training or lessons in drawing, the average Bengali boy is denied that education of the senses, and especially of the hand and eye, which are so necessary to correct the overweening subjectivity and other natural defects of the Indian mind. When we add to this the fact that he gets his ideas through the medium of a foreign language, and with the aid of books which often describe scenes and surroundings, natural as well as social, of which he can have no visualisation or concrete image, we can well imagine that his training is apt to be abstract, formal and symbolical, divorced from life and reality. That so many survive this de-vitalising process is a testimony to the native intelligence of the Indian stocks.

(c) Training in research, or in the work of advancing the bounds of knowledge, is another object of a modern university, which, however, can be intended only for students of special ability in the higher stages of instruction, ordinarily in the post-graduate stage. Our M. A's. and M. Sc's, as I have pointed out, are but graduates who have specialised in certain 'pure' or liberal studies, and who give a higher tone to such of the professions and

SEAL, Dr BRAJENDRANATH—*contd.*—SEN, ATUL CHANDRA.

services as are (happily) largely recruited from among them; they are not specifically trained for research. But during the last ten years the University has made marked and rapid progress in the direction of fostering research. The postgraduate lectureships are in the nature of fellowships for some of our most brilliant young men, placing them above want and giving them sufficient leisure—of which they are likely to give a good account. To these must be added a few research studentships and prizes, and the new doctorates in philosophy and science, which have done more to stimulate original investigation in science as well as in arts, during the last ten years than was done in the entire preceding history of the University. Our wants in this matter are more research studentships and fellowships, more and better-equipped libraries, laboratories and museums, and, above all, more of stimulating and inspiring guidance. It is also essential that the teaching of French, German, Chinese and Prakrit be taken in hand by the University and that an Indian candidate be allowed to offer any of these languages in lieu of an optional subject at any university examination. Our neglect of these languages is a main obstacle to research.

(*d*) The highest university training has also another aspect, *viz.*, the vocational, the aim being to turn out experts (or trained men) for the various professions, occupations and services which require specialisation in *theory* as well as in *practice*, and which will correspond to the volume and breadth of life in the country—*e.g.*, engineers, technologists, chemists, physicians, lawyers, ministers of religion, artists, teachers, journalists, statists, actuaries, bankers—the various departments of the Civil Service or bureaucracy.

Here in Bengal, in the absence of a much-needed diversity of occupations—(I may note *en passant* that the mediæval universities in India 'sheltered' the '32 sciences' and the '64 arts')—the University of Calcutta has hitherto conferred degrees or diplomas in teaching, engineering, medicine and law, and in a general way trained for the civil services of the country. Of these law has taken the lion's share. Medicine and engineering have been very inadequately provided, having regard to the vital needs of the people and the volume of the demand. Agriculture, chemical and industrial technology, and commerce, not to speak of the fine arts, have not been taken under the auspices of the University.

I may add that training in pure research, and the training of experts and specialists in technology, should go hand in hand in a university of the modern type: in fact scientific research is powerfully stimulated by the University taking in hand the equipment of the nation for the industrial struggle in the world's market: a prime duty of every system of national education, and every national university, in our day.

In my view, every national system of education must make adequate provision for all these kinds of training. Our deficiencies under every one of these heads I have noticed in course of the foregoing observations.

SEN, ATUL CHANDRA.

I do not think that the present system of education in this province affords to young men of ability full opportunity of obtaining sound education for the following, among other reasons:—

(*a*) Most of the students who join the University after finishing their school education are insufficiently equipped for collegiate education. Many of them cannot even follow the lectures of their teachers owing to imperfect development of the powers of understanding, defective knowledge of English, and the abrupt change from the school to the collegiate stage.

(*b*) Undue importance being attached to examination, the students generally make success at examination the sole object of their studies and do a great deal of memory work to the detriment of their understanding.

(*c*) The teachers generally adapt their teaching to the needs of examinations and many of them often dictate notes and mark out important passages which are likely to be set in the examination.

(*d*) The number of students in college classes being very large, the teachers cannot pay individual attention to their boys who get any tutorial help worth the name. Hence many of them have mainly to depend upon notes and keys for preparing themselves for the examinations.

(*e*) Students receive very little encouragement and enjoy very few opportunities of reading works other than their text-books.

(*f*) There are many colleges which are not adequately equipped in respect of libraries and laboratories and hence are not in a position to impart sound education to the boys.

(*g*) The system of examination is very defective.

(*h*) The curriculum and courses of study for the different examinations sometimes prove a hindrance to sound education, *e.g.*, there is no provision for the study of sciences at the matriculation stage. History and geography have been made optional subjects and therefore the history of England is not taught in schools.

(*i*) The system of admission is also defective.

SEN, BENOY KUMAR.

I consider that the existing system of university education does not afford to young Indians of ability full opportunity of obtaining the highest training. For I believe that such full opportunity can be obtained only in a residential system. In an affiliating and examining university like the Calcutta University :—

(*a*) No special differentiation can be made in the nature of the teaching to suit and foster special aptitudes of students of ability.

(*b*) The existing system is vitiated by the adoption of a curriculum which provides for too early specialisation. (This point has been fully discussed by me in an article which appeared in the Presidency College Magazine.)

(*c*) But the most serious danger to the cause of higher training arises, in my opinion, from the erroneous policy which the Calcutta University has recently adopted with regard to post-graduate teaching. This mistaken policy is the result of making a confusion between the nature and the proper functions of an examining university with those of a teaching university. In trying to make an examining university perform the functions of a teaching university, we invite certain failure in the proper performance of both of their respective functions. The proper business of the examining university is to see that the affiliated colleges develope their teaching capacities to the highest degree. But if the University takes up a share of the teaching work (specially in the highest classes), it at once robs the colleges of all chances of their highest development and reduces them to the position of a higher sort of schools. The spirit of research, of pursuit of knowledge for its own sake, will be killed in them. The teaching staff of the colleges will soon deteriorate as the majority of the teachers will have no connection with the higher teaching of their respective subjects. Moreover, by segregating the post-graduates in the University, the under-graduate students in the colleges will be deprived of their inspiring leadership in all intellectual pursuits and corporate activities. This sad loss in the college life will not be compensated by the expected better provision for post-graduate teaching at the University, for the abnormal over-crowding of the students will nullify the good results expected from the concentration of the teachers. It is essential, in the higher courses of study, that the teachers must come into intimate personal touch with the students, and this can only be possible by distributing post-graduate work amongst the different colleges and thus bringing the number of students to a manageable figure.

SEN BENOY KUMAR—*contd.*—SEN, BIPINBEHARI.

In this connection, I beg to draw the attention of the Commission to the following quotations from the report of the Royal Commission on London University Education (1913):—

> "It is in the best interests of the University that the 'most distinguished of its professors should take part in the teaching of the under-graduates from the beginning of their university career.'
>
> "If it is thus desired that the highest university teachers should take part in under-graduate work, and their spirit should dominate it all, it follows for the same reasons that they should not be deprived of the best of their students when they reach the stage of post-graduate work. *This work should not be separated from the rest of the work of the University.*
>
> "It is also a great disadvantage to the under-graduate students of the University that post-graduate students should be removed to separate institutions. They ought to be in constant contact with those who are doing more advanced work than themselves, and who are not too far beyond them, but stimulate and encourage them by the familiar presence of an attainable ideal."

(While reading the above we have only to bear in mind that in an affiliating university like that of Calcutta, all these remarks apply to the affiliated colleges which are the true teaching centres of the University.)

Further, the inevitable tendency of the recently adopted system will be to diminish the number of college lecturers who will be given a share in post-graduate training and to increase the number of the university lecturers who can have no opportunity of ever coming into contact with under-graduates. Ultimately, the supply of efficient and experienced post-graduate teachers will be adversely affected.

For the above reason I hold that though the new scheme may be the right one in a purely residential and teaching university, it will be absolutely suicidal to adopt that scheme in an affiliating university which the Calcutta University is bound to continue to be for a long time to come.

Throughout this memorandum I adhere to this general principle of university education that even admitting that the residential teaching university is the ideal system, an affiliating and examining university can best perform its functions by limiting its activities to supervision of the teaching in the colleges and the conduct of the examinations, and allow the colleges in the different centres of the province to attain to their highest developments—on attaining which they should be at once converted into teaching universities. The only legitimate teaching work that an affiliating university can undertake to supplement the teaching of the college—by providing for special courses of lectures to be delivered by men who have attained distinction in their respective subjects.

SEN, BIPINBEHARI.

The Calcutta University is now a teaching university. The system of post-graduate teaching organised by Sir Asutosh Mukerjee, will, if properly encouraged and carried out, give ample facility to young men of solid parts and scholarly habits in this province for the attainment of the highest degree of usefulness so as to make the University a seat of real culture. Professors of undoubted scholarship and attainments have been appointed to be in charge of some of the important subjects of study recognised by the University; and they are mainly confined to research work. A body of able assistant professors of experience, possessing high academic distinctions, have been carefully selected to lecture on the various subjects of post-graduate study; and an elaborate tutorial system has been introduced to give young graduates, having high academic qualifications, opportunities to learn the art of teaching and carry on original investigation in the various branches of study in which they seek to specialise.

But I venture to suggest that young graduates fresh from Indian or foreign universities, if they do not happen to be men of exceptional merit, may not be entrusted with the responsible work of teaching and examining students for the highest degrees of the

university unless they have received a course of training as lecturers in colleges or as tutors in the post-graduate institution for at least a period of five years.

The intellectual and material advancement of the province depends mainly on the excellence of its indigenous products. There is no want of men of real ability who are willing and able to work with single-minded devotion in the cause of high education under wise and skilful guidance, if they have freedom, opportunities and reasonable emoluments. A large body of men of character and wide intellectual sympathies, working as a corporation and sacrificing ambition to duty, can never fail to be useful, and make the University a nursery for scholars and great men.

A large number of scholarships may be founded to enable our university lecturers, college professors and distinguished graduates of the University to study the educational systems in foreign universities as well as those subjects (specially of a scientific character) for the study of which no suitable provision has yet been made in this university for want of men and means.

Professors at our university should not be mere theorists. Where practical science is required, a practical scientist shall teach it. Practice and theory should be combined to have a basis for the material progress of this province to enable it to stand on its own legs. An interchange of professors of the different universities of this country will create an equality of opportunities.

SEN, Rai BOIKUNT NATH, Bahadur.

My answer to the first portion of the question is in the negative.
The deficiency lies mainly in respect of physical and moral training.

SEN, NIKHILRANJAN.

There are certain defects in the present system which stand in the way of the scholars desirous of obtaining the highest training. By highest training we should mean the full development of the individuality of its recipient on a broad and sound basis of general knowledge. Distinguished scholars reciving such a training should also be able to keep pace with the work that is done at other great centres of learning. The present curriculum does not provide for a sound training in the first principles of the common arts and sciences. It aims at an early specialisation, rather too early, with the result that the ground-work remains defective for ever. A consideration of the course prescribed for the matriculation examination will bear this out. High school training should be exclusively devoted to the acquisition of general knowledge as preparatory to higher training at the University where specialisation should be the ultimate aim. The present Matriculation course does not include any one of the common sciences such as physics, chemistry, physiology and botany and even offers any option as regards such important arts subjects as history and geography so that almost every one of the students who come to the University every year is ignorant of the elements of science, and about four-fifths of them enter the colleges with only a smattering of a certain period of Indian history, learnt in their early school days, and with almost no knowledge of geography. Any comprehensive scheme of general education should provide for a training in all the principal branches of both arts and science; the importance of the former is recognised here, but that of the latter is totally ignored. The study of science should have a place in every system of liberal culture. It gives a man the knowledge of his place in nature and his mastery over it. So a revision of the present matriculation course in the light of the above consideration is necessary. It may be remarked here that in order to lighten the labour of students and avoid the difficulties of language the scientific training should be carried on in Bengali.

The freedom given to the students of choosing their own subjects in the colleges is an excellent system and should be retained. In the same spirit some amount of freedom of teaching is also necessary for the teacher. He should sometimes be permitted to

SEN, NIKHILRANJAN—*contd.*—SEN, RAJ MOHAN.

depart from the prescribed syllabus and introduce such things as are calculated to create an interest in the subject and incite the more ambitious students to higher study.

As regards the training of some distinguished scholars who would be most up-to-date in their knowledge and keep pace with the progress made elsewhere the University has certainly an eye to that and affords some opportunities at least to that effect. The recent post-graduate scheme is also a step to that end and it is reasonably expected to yield some good results. It is necessary to develope it gradually on the present line or on any other line which might suggest itself on the working of the scheme and it may be hoped that better and better conditions would be created for able scholars to distinguish themselves.

The above remark is true as regards the pure sciences only. For the study of higher technical sciences the University has done very little. The Faculty of Technology and Commerce should be a feature of a modern university in order to train up students in these branches and give them an opportunity of specialising in their respective subjects.

SEN, RAJ MOHAN.

By the highest training I understand the training which is necessary for carrying on research in order either to extend the sphere of human knowledge or to make new practical applications of the knowledge that we already possess. If this view of the question be correct, then the answer seems to me to be plain. Neither the Calcutta University nor any of its affiliated colleges, until very recent dates, gave to the students of Bengal proper facilities for the highest training. The Calcutta College of Science has only been recently established. But even now only a very few of the other colleges have suitable arrangements for research work. Besides, apart from the question of actual training for original work, the method of teaching at present followed in the colleges, does not appear to me to foster the spirit of self-help among the students, without which no training for original work can be effective. Our students are to a large extent passive recipients of instruction, instead of being active workers under the advice and guidance of the teachers. On the one hand, this is, perhaps, due to an excessive eagerness on the part of the college authorities and teachers to show good results at the university examinations and, on the other, to the keen competition among the writers of annotated editions of text-books and keys, etc., to secure the largest sale for his production by making it the most elaborately written book of its kind in the market in order to lessen, as much as possible, the amount of labour necessary for the students to pass the examinations. As long as this method of teaching continues unchanged, the spirit of self-help and of original research cannot be expected to prosper. I venture to think that the method of teaching to be followed in colleges should be different from that followed in schools. But at present there is not this difference in Bengal, and the colleges here have now been reduced to mere bigger schools in which only the subjects taught are higher, but the method of teaching followed is the same as in schools. To remedy this defect in the present system of teaching in the colleges, the University should rather fix the maximum instead of the minimum number of lectures to be delivered in each subject, lessening the number of lectures now usually delivered at least by one-third, and at the same time insist that no college should place under a teacher more students than he can effectively instruct and supervise. This will necessitate an increase in the number of teachers, and consequently also in the expenditure.

There is another way in which the present system of teaching retards the progress of the good students. We now teach chiefly by lecturing in classes which are generally too big to admit individual instruction and guidance. The teachers have, therefore, to adapt the standard of their teaching to the average capacity of their classes. So those students who are above the average in intelligence and working capacity, and who, with individual help from teachers, could do higher and better work, have to suffer. The loss suffered in this way by a good student even in the lower classes of a college cannot but, to some extent, affect his whole career. There are at present in the Rajshahi College 437 students who study mathematics, and only two professors to teach that subject.

SEN, Rai SATIS CHANDRA, Bahadur—SEN, SURYA KUMAR—SEN GUPTA, HEMCHANDRA—SEN GUPTA, Dr. NARENDRANATH.

SEN, Rai SATIS CHANDRA, Bahadur.

The syllabus, as at present prescribed, is sufficient for the purpose and is of a high order; the teaching imparted through European professors can be improved by attracting English professors of higher attainments. The English professors, as now-a-days recruited, are inferior to professors of our day. In many cases they are inferior to Indian professors in ability and attainments. As for Indian professors the best products of the University are not engaged. They have better prospects in other departments.

Under the present system the majority of professors, specially European professors, keep themselves aloof from students. There is practically no interchange of ideas between the professors and the students except for a few hours in the class rooms. Students derive no inspiration from their professors.

Much importance is now attached to results at the examination. The general career of the student is not taken into account. The examination is no test of efficiency and "originality" of students. It gives rise to the practice of cramming.

SEN, SURYA KUMAR.

The existing system of university education does not afford full opportunity of obtaining the highest training, as the subjects fixed for the examinations are too many and the courses prescribed cannot be finished in two years. Cramming is largely practised.

SEN GUPTA, HEMCHANDRA.

The existing system of university education is deficient from this point of view, inasmuch as:—

(*a*) Books and journals of reference are not always available, especially when they are written in a language other than English.
(*b*) Boys have not always easy access to them even when they are available.
(*c*) They have no opportunity to read any book or journal written in a language other than English because they cannot understand the language of these books.
(*d*) They cannot meet their teachers as often as they like.

SEN GUPTA, Dr. NARENDRANATH.

The term 'highest training' may have different meanings for different persons. I take it to mean 'a good all round training that fits a person for citizenship.' 'Highest training' therefore, must be one that touches the whole personality and not merely intellect. The present system, judging from this point of view, is defective inasmuch as it:—

(*a*) Favours early specialisation and thus exerts a narrowing influence upon intellect.
(*b*) Does not effectively encourage activities other than intellectual.
(*c*) Does not always bring into play the personality of the teacher.

I proceed to deal with the several points.

(*a*) The courses of study should be so arranged that each student may come into contact with the main streams of thought and culture. Specialisation should be preceded by a period of general culture. Under the present system a student may pass through the University without ever studying either natural sciences or social sciences like economics, sociology, history,

SEN GUPTA, Dr. NARENDRANATH—*contd.*

politics, etc. This arrangement, I submit, is far from being satisfactory and demands reconsideration.

There is, of course, a large number of alternative studies at every stage from the Matriculation to the B.A. These, however, serve more to shunt off students in different lines than to broaden culture. An I. Sc. almost always comes out as an M. Sc. though he might with profit have studied something of economics or politics. A student who chooses only literary studies for his intermediate course will usually become an M.A. without ever knowing anything of the natural sciences. This, I submit, is far from being desirable. I propose the reinstatement of the old F. A. curriculum or the introduction of one of the same nature. No amount of knowledge of chemistry can ever fulfil the need of history or philosophy; each has its place in the field of culture. There should always be a minimum of general education upon which specialisation should be based.

The number of subjects at the B. A. stage should be at least four. I cannot agree with those who would make the stage of graduation one of specialisation. At the same time I should like to have the units which constitute a subject detached from one another so that a variety of combinations is possible. Thus it is desirable that the student of economics should take psychology or ethics without being forced to study metaphysics as well. Similarly the student of ethics should have the option of studying political philosophy without encumbering himself with Indian economics.

Specialisation should commence only at the M. A. stage. The course of study prepared by the Board of Higher studies in Philosophy this year is according to my opinion an excellent one for this purpose.

Apart from the question of curriculum, the mode of teaching also demands certain modifications. There should be more to do for the student in the way of writing essays and dissertations. This would not only create an interest in the mind of the student to study up special topics but will also enable him to form opinions about them. Library work and essay writing should have the same position in the arts curriculum as laboratory work has in the science curriculum. The subjects of study must be brought from their academic seclusion to bear upon the problems of daily life. Only by this means can they be rendered vital and real for the student. The student of psychology for instance must be made to realise the socio-moral task that he as a psychologist, is called upon to perform. The bearing of his science upon education, law, medicine, business, etc., should be made clear to him and he should be called upon to study simple problems in one or more of these fields. The student of sociology should likewise be called upon to study the problems that his concrete social environment offers. In this way alone can education be really effective and productive of personality and character.

(*b*) The absence of what is known as "student activity" or "class activity" at American universities is keenly felt by many of us. These activities serve not only to vitalise the community of students but also to counteract the effects of academic aloofness and academic intellectualism. Much of what has been said above would have missed its point had we here in existence organisations indicative of corporate life and activity of the university community. Moreover we must not forget that one imbibes a loftier culture from the tradition of the University than from its lectures; and a healthy tradition is merely an outcome of the corporate life of the University. Hence it is one of the basic conditions of a healthy cultural life that there should be other organisations and activities besides those that meet only the intellectual demands, among the members of the University and its constituent colleges.

These clubs and societies that guide the course of university life spring up by themselves under normal conditions. But the students of Bengal have

come to stake a high premium upon intellect on the ground that a first class career at the University almost always ensures a bright financial prospect. Thus "Academy has stifled life" and we have at the University a large number of students whose only companion is the text-book and whose only activity is reading. If, therefore, we wake up to the need of social life at the University, the initiative during the first decade or so, must lie with the authorities of the University and of its colleges who must bring home to the student in various ways that reading text-books is only one of the aspects of university life.

Collegiate and inter-collegiate associations should immediately be formed under the patronage and subsidy of the University on the following lines :—

(i) It is a patent fact that the city of Calcutta holds out but scanty opportunities for the young to indulge in games. The want of space is almost always the principal reason. It must be obligatory on the part of the colleges or an association of colleges, therefore, to make arrangements for the physical recreation of students. Nothing effective, however, can be done unless the co-operation of the Corporation of Calcutta and of the Government of Bengal is forthcoming. The Corporation might very easily lend its public squares to the University for the installation of athletic clubs of various descriptions. The Government of Bengal too may with funds and land encourage the physical culture of our student community.

But the University should enact rules that would make it compulsory for students to keep up to a certain level of physical health. Arrangements should be made by each college for a periodic medical examination of all its students. Those who fail to pass the physical test should be granted health-leave and should not be allowed to pursue their studies. This measure will prevent many students from ruining themselves through undue strain. No student who fails in the physical test should be entitled to continue his scholarships if his ill-health be due to his persistent neglect of physical exercise. These measures together with proper facilities for physical culture would go far in making up for an aspect of education hitherto neglected.

(ii) It will readily be recognised that formation of tastes is one of the principal features of education. The cultured man knows how to enjoy and what to enjoy. There is, however, no provision whatsoever at our University for the cultivation of æsthetic life. I do not insist that every one should be made to take courses in fine arts or to join the musical club ; my only contention is that the æsthetic life of the university and college communities should have its means for cultivation and expression. To this end I favour the institution of a curriculum in fine arts comprising philosophy of art, history of art, and courses in the theory of music, painting, sculpture and architecture. At the same time, every college should encourage musical and other fine arts organisations, such as dramatic clubs, poets' club, etc. It is needless to mention that these organisations more than the college courses would contribute to the formation of æsthetic life of the student community.

(iii) Education in order to be vital, real and effective must set clearly before the student the social and moral tasks for which it seeks to prepare him. The social and moral problems of the community therefore, must be presented before the student in their concrete form so that he may realise their importance and prepare himself for their solution. It is imperative for the University to encourage organisations which foster a spirit of social service and bring home to the student the conditions of his social environment. I propose,

SEN GUPTA, Dr. NARENDRANATH—*contd.*

therefore, that the University should establish a "Social Bureau" which will marshall workers for social survey and social service. Activities may be initiated immediately in the following directions :—

(*a*) Management of night-schools.
(*b*) Organisation of boys' clubs for helping the children of the poor.
(*c*) Organisation of institutions for the working population.
(*d*) Management of a legal bureau for helping the poor litigants.
(*e*) Economic survey of different districts as regards specific industries.
(*f*) Child-study in rural and urban areas.

Other departments can be opened as interest is awakened and need arises. When societies of this description are in existence, the University should extend its recognition to them and if possible, it should subsidise them.

Apart from these organisations and societies, the University and the colleges should always encourage students to form clubs and associations under proper guidance and advice. To organise a club is in itself training which is likely to be of value for the student even when he gets into the world.

In order to give effect to the recommendations made above, it will be necessary to establish a students' bureau by the University consisting of representatives of different colleges. This bureau should sub-divide itself into physical, æsthetic and social departments in order to foster activity in the several departments. Each of these committees must have as its members student representatives of different colleges. Thus in each of these fields students and teachers will collaborate and interchange ideas as fellow-workers. Not only therefore, will there be a spirit of social service pervading the university community, the gain in the region of intellect too will be considerable if a scheme as proposed above be given effect to.

(*c*) No argument is necessary to prove the importance of a teacher's personality as one of the basic factors of sound education. The system prevalent in Bengal appears to have failed to realise the fact. The department of education has done little to enhance the personality of a teacher and to enable them to bring their personality into play.

(*a*) In the first place, the private institutions have been allowed to choose their own scale of salaries for teachers and they have done so on a principle more becoming a factory than of a college. Instead of availing themselves of the services of the best men, they have gone after those who have been willing to serve on a low pay. The result, as might be expected, is that many of the really able scholars have turned away from education. Many even among those who have continued in the profession of teaching have been forced to transfer their services from one institution to another for want of economic prospects. This, it would readily be admitted, is not a desirable state of things. It may at least partially be rectified if a scale of salaries be fixed by the University and private organisations are prevented from taking advantage of the impecunious educationists.

(*b*) The service under Government though financially better than that under private management, suffers from a social drawback. The obnoxious distinction between the I. E. S. and the P. E. S. has served to turn away many of our able men from the profession of teaching. The distinction is made more intolerable by the fact that it is based on racial considerations and not upon gradations of personal worth and ability. It is unlikely that those who are branded as inferior, whose personal worth is challenged, would with smiling face devote themselves whole-heartedly to their daily work. If there have been teachers of eminence even

under these circumstances, it is to the credit of the teachers themselves and not of the system.

(*c*) The present system of university education does not give teachers their fair share of control over educational matters. The senate should have more representatives of the teaching profession than it now has. The constitution of the senate should be placed on an electoral rather than on a nominational basis. Unless teachers are allowed to control the mechanism of the University, it is impossible for them to actualise their ideas and ideals. Thus, the university courses run the risk of being stereotyped and the university life of becoming stagnant.

It cannot be gainsaid that of two persons of equal capacity the one who is engaged in teaching is a better judge of educational matters than one who follows the profession of law or medicine. The teacher is the best judge of what should be taught and how it should be taught. No syllabus or course of study should be imposed upon him *ab extra*.

Such an imposition always signifies absence of confidence upon the ability of the teacher and no teacher is too dull to realise it. Unless therefore, we are ready for the changes indicated above, it would be idle to expect that men of personality will flock to the department of teaching and that they will bring the wealth of their mind to bear upon their daily work.

SEN GUPTA, Dr. NARES CHANDRA.

I do not think it does to the fullest extent. The deficiencies of the existing system are of two classes :—

(*a*) In so far as it lacks adaptation to social and economic environments.

(*b*) In so far as its methods are indifferent.

(*a*) The educational system has no reference to our social and economic ends. Knowledge for its own sake must needs be the privilege of a few. To the bulk of the people education must be primarily a means of improving one's fortunes and increasing one's value as a unit of society. Nowhere in our educational system—and least of all in the University—is there any attempt to increase the efficiency of the man for the particular end he has proposed to himself. The result is that the mere passing of the examination, and, perhaps, so qualifying oneself for Government or private service, for which a university qualification is a *sine quâ non*, becomes the end of education. This aimlessness of education is reflected in the wonderful combinations of subjects which are offered by candidates for examination—subjects which have no possible relation with one another. The reason is that candidates mostly select the shortest cut to a pass. To remedy this defect, I think it would be necessary to diversify the courses and adapt them with special reference to particular careers—the career of a scholar being only one of these. What those careers may be and how education may be adapted to lead up to a high degree of efficiency in it I shall deal with later on.

A further deficiency which may be dealt with under this head is the exclusive place which intellectual culture has in the scheme of education. Character building, except in so far as it is a necessary consequence of the widening of the intellectual outlook, is not attended to by the University. The development of corporate social life in colleges and the University is necessary for the upbuilding of character more efficiently than in the past.

Physical culture too is sadly neglected. Some progress has recently been made in the direction of sports. So far as it goes, it is good. But it is to be feared that an excessive attention is being paid to spectacular effect rather than to

SEN GUPTA, Dr. NARES CHANDRA—*contd.*

a real effective all-round progress. Schools and colleges are more interested in developing teams which can win shields and cups than in a steady effort for the improvement of the physique of every boy in the college. This last is undoubtedly the essential thing, and I would suggest that in every school and college, boys and girls should be compelled to undertake compulsory courses of physical training under the guidance of really capable professors of physical culture. Individual attention is the essence of success in this report.

I wish to emphasise this fact because I feel that the physical weakness of our young men is one of the most painfully prominent features of our schools and colleges and undoubtedly undermines much of the good work of our educational system. The poverty of the boys, the unwholesome conditions of life and the defects of the social system are some of the contributory causes of this physical decline, but it is still possible to effect much by individual physical instruction of pupils.

(*b*) The worst evils under this head are to be found in the schools, whose deficiencies stand in the way of progress. The following are the chief defects of the educational methods in schools :—

(i) There is a lack of knowledge of the theory and practice of education in the great majority of teachers. Attempts to remedy this are made by issuing detailed instructions for teaching. This is supplemented by supervision and control by inspectors. The result is a mechanical adherence to rules tested by mechanical standards. I think it necessary to organise a system by which, in the course of, say, ten years, every teacher in every school shall have gone through a course of instruction in the science and practice of education.

(ii) There is a lack of individuality and initiative in teachers. This is due to the defect stated above. There are too many rules and too little freedom for the teacher in the methods of teaching. Books are selected by inspectors of schools and each teacher is expected to go through a definite portion of each book and to comply with other definite instructions. All this consumes the whole time of the teacher and leaves him little time to develope any thing of his own. Any departure from rules, far from being encouraged, is put down with an iron hand.

(iii) The head master of a school has been degraded to the position of a subordinate to the inspector of schools. His duties consist merely of seeing that the inspector's rules are obeyed. The head master should be given the utmost liberty in fixing the courses of study in his school and controlling the method of education therein. His position should be at least equal to that of an inspector of schools and his authority in no way undermined by the superior authority of any other man. It goes without saying that he ought to be at least as well qualified as a professor in a college.

(iv) I should like to mention two specific defects in the methods of education. Firstly, the schools are at present more or less in the nature of daily examination centres. Teachers give the lessons and take them. The learning is expected to be done at home. This is a most pernicious system. At any rate in the lower forms the children ought to have all their time free at home and reading there should be at their pleasure and choice. The teaching in all classes should be mainly done at school.

Secondly, under the present system there is a deplorable want of continuity in courses of study, which leads to a tremendous waste of time. Thus, for instance, a boy in Class IV begins reading grammar and reads up to, say, adverbs ; in Class V he begins another book on grammar and goes the weary way up to—well, adverbs. In the next class he does the same thing from another book and when he reaches the

highest forms he has to hasten through the most important parts of the grammar. It is worse in other subjects where the education is imparted in different languages in the different stages. Thus, in Class VI or VII a boy or girl reads a fairly advanced book on history in the vernacular. In the next class he reads again an elementary book on history in English, and never reaches the standard of Class VI till perhaps he comes to Class IX or X. In all this time he might have got a very good knowledge of history. It is worst of all in science. In the primary classes children read elementary science. They go through different books—good, bad and indifferent —naturally without any fixed plan of development of their knowledge. When a boy comes to Class V or Class VI his science course is stopped and it may, under the present rules, never begin again, at any rate, till he goes up for his I. Sc. course.

The want of proper co-ordination of subjects is striking. A man reads physics without having studied mathematics. He reads philosophy without knowing the elements of science without which most modern philosophical works would be unintelligible to him. One reads Roman law without knowing Roman history and so on. As I have mentioned before most amazing combinations of subjects are offered by candidates for the different examinations. This should never be permitted. When a student takes up a particular subject, he must be given all the necessary instruction in other subjects the knowledge of which is essential for a proper study of the one selected.

At the same time it would be absurd to suggest that a student should be asked to pass examinations in all possible subjects which he ought to know. Thus, to read a book like Martineau's " Study of Religion " with profit, a student should have a fair acquaintance with physics, mechanics, biology, astronomy, analytical geometry, etc. Spencer's philosophical works would be unintelligible without a very good knowledge of biology. Psychology should presuppose a good knowledge of physiology. I do not think any good purpose will be served by insisting on a student of philosophy going through a whole gamut of examinations in scientific subjects. I should, on the contrary, limit the university examination for the B. A. degree to one subject only. But before a principal certifies that a student is fit to sit for the examination in a particular subject he should see that the student has read all that he should of the subsidiary subjects. This may necessitate the placing of comparatively small batches of students in the hands of tutors who would direct the studies of the pupils, ask them to attend particular lectures, look through their note books and generally satisfy themselves that the student has honestly read those subjects which are necessary.

(*b*) The method of instruction and examination encourages too great a limitation of the range of studies of students. Although a syllabus is prescribed in many subjects, examinations are based on the books prescribed. Professors too often devote their attention exclusively to explaining, analysing and summarising particular text-books. I have had the good fortune to read under teachers whose constant endeavour was to encourage students to travel beyond text-books and read the subjects rather than the books prescribed. But they were exceptions. My experience, as a teacher, is that there are still exceptions, and the student of to-day is still, generally speaking, limited to text-books.

The University is the all-important thing in our educational structure and the colleges nothing, though it is the colleges which are responsible for giving instruction. The University has rules for every thing—the subjects to be studied, the number of lectures to be delivered in each subject, the number of lectures which a student must attend and on his attending which he will be entitled to claim as a right to sit for the examination, etc, etc. These rules aim at securing a uniformity in the standard of education in the different colleges. The uniformity which is attained is of a mechanical character, but education is undermined by taking away all initiative from the teachers.

SEN GUPTA, Dr. NARES CHANDRA—*contd.*—SEN GUPTA, SURENDRA MOHAN—Serampore College, Serampore.

I think that colleges should have a larger measure of freedom in regulating their courses of study, professors should have greater liberty in their methods of dealing with their subjects, they should have much fuller control over the students and a larger share of authority in settling standards of fitness for the university degrees.

SEN GUPTA, SURENDRA MOHAN.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training. Because:—

(*a*) Students are not given any moral or physical training.
(*b*) Students do not secure that amount of general training which would help them to take full advantage of the specialised training of the University.
(*c*) The present system is too costly.
(*d*) Students are cut off from home influence.
(*e*) Relation between the teacher and the taught is not so intimate as it should be. Students cannot take full advantage of the teacher's guidance.
(*f*) The rigid examination system.

Serampore College, Serampore.

No, in comparison with the facilities obtainable in western lands, we recognise however the possibility of real advance in the right direction, so far as the M. A. and M. Sc. courses are concerned, provided the new arrangements made for post-graduate teaching are adequately sustained and consistently developed on the lines already approved, and the plans outlined in the Post-Graduate Committee report. We consider the existing system deficient in various respects, in its application to ordinary collegiate and university work.

(*a*) Facilities for the best preparatory training in well-equipped high schools are woefully lacking. Apart from two or three schools intended chiefly for European boys, there is no school in Bengal in which advanced work is done on the lines undertaken in the highest forms of English public schools. The brightest boys attain to the matriculation standard without any pressure by the age of fourteen or fifteen. Yet the present system compels them to stay on at school, doing exactly the same work, and so inflicts grievous injury on some of the best talent of the country. We have no hesitation in expressing the view that by far the larger number of so-called high schools in Bengal are quite unworthy of the name. Their equipment is miserable, their ideals low. The one thing they require of their pupils is ability to reproduce material from text books and notes that have a direct bearing on the university matriculation examination. In the great majority of cases there is no effort made to teach their pupils to think. No doubt much of this is due to the impediment of a foreign tongue. Indian tradition too accounts for much, resulting as it has in a facile memory. In any case, the fact is indisputable that as things now are, the examination at the end of the course is the only thing that counts. Training is at a discount, and success in the examination is the be-all and the end-all of the system. The final outcome in too many cases is a type of boy very ill-prepared for all that is involved in university study.

(*b*) The system in vogue in the schools is perpetuated to a very large extent in the colleges. Even colleges with the best ideals are largely dependent on the material supplied them. The whole tendency everywhere is to make sound teaching and serious study subservient to examination success. Students

Serampore College, Serampore—*contd.*—SHARP, The Hon'ble Mr. H.—SHASTRI, PASHUPATINATH.

expect detailed help in every portion of the syllabus, and if a teacher strays beyond the prescribed limits he will soon hear the complaint "It is not in the syllabus, sir." We believe there are collegiate institutions in affiliation with the University, whose ideals are no higher than this general level. They are wholly dependent on the fees of students, and they allow themselves to be led and governed by the students.

(*c*) The wretched conditions in which so many students in a great city like Calcutta live, are not only unfavourable to sound intellectual and physical development, but constitute a grave moral peril. Education, we take it, involves the harmonious development of all the faculties and powers, physical, intellectual, and moral. That is not the ideal dominant in the mind of the average student, or in the aims and activities of the average college in Bengal. We consider the present university system, and the present system of Government administration, which make practically everything dependent on success in examinations, largely responsible for the evils we have referred to.

SHARP, The Hon'ble Mr. H.

If we are to judge by the curriculum, the answer is in the affirmative so far as the subjects offered are concerned. Whether further subjects should be offered is discussed in my answer to question 6.

If, however, we have regard to the actual facts of teaching and general training, the answer must be rather different.

The education which is available in high schools and throughout the greater part of the college course is in many institutions insufficient to qualify boys to profit from the higher courses to which secondary and under-graduate instruction leads. Thus many boys, naturally of good aptitude, miss the opportunity of due preparation for the study which leads on to the M.A. and M.Sc. degrees, still more for post-graduate study and research. Not only is the teaching in the prescribed subjects defective, but very little is instilled into the pupils by way of general mental discipline. Little is done to develope the power of observation, the reasoning faculty and the correlation of facts learned in the class-room with the realities of life.

In many institutions there is little or no community of life. The pupil misses that social environment which broadens the mind and forms so important a part in school and still more in college training. The conditions of life outside the educational institutions frequently fail to supply this defect.

In a word, while the curriculum in its higher stages looks attractive, there is a considerable element of hollowness in the present system. The attempt is made to place an elaborate super-structure upon an inadequate foundation. The result is that only those students who are peculiarly gifted or have been unusually fortunate in their choice of institutions are able to continue creditably to the conclusion of the university career. There is a large amount of unnecessary wastage by the way and many even of those who survive to embark upon the highest courses are not well-equipped for the task.

SHASTRI, PASHUPATINATH.

The present system affords great opportunity of obtaining the highest training. The old system did not provide facilities for research work, but that want is now being removed. The main defect that exists is that many of the teachers are discontented and that most of the students are aimless and unwilling. Professors are generally ill-paid. Some of them remain in the profession so long as they do not find a more lucrative one, and some come to the profession after being unsuccessful in other professions. Teaching is not their aim in life. On the other hand, students come, not to learn, but to pass. The completion of the percentage of lectures is more important to them than the lectures of their professors. Hence, a good feeling between teachers and students does not usually exist.

SHASTRI, DR. PRABHU DUTT.

The following are the main defects of the present system of university education in Bengal :—

(*a*) It fails to offer full scope for a systematic and harmonious development of the students' physical, intellectual and moral faculties.

(i) *Physical Training.*—The poor physique of the average Bengali student may be due in part to a lack of proper facilities for physical training during his career as a university student. Having been for many years in touch with student-life in the Punjab, I can easily compare the average Bengali student with the average Punjabi student in this respect. The latter generally gives evidence of better health and physique and a greater amount of freshness, buoyancy and vigour. This may be attributed partly to a better organisation for physical culture in that province ; every student is compelled to take an active part in one or more of the several games and sports ; attendance at the gymnasium is also compulsory ; and the interest of students is sustained by most of the teachers themselves joining in the sports regularly.

(ii) *Moral and religious education.*—The present system is supported on the theory that the principles of morals need not be taught *directly*. But it appears that students who receive their training in denominational colleges, under Christian, Hindu, Muslim or other missionaries, are as a rule better in manners and deportment than others who receive a purely secular education. The Indian has a pre-eminently religious turn of mind, and any scheme of education that ignores his moral and religious instincts fails to appeal to his personality. Hence, not only in all schools but also in all colleges suitable provision should be made for imparting direct moral and religious teaching. No controversial topics need be discussed, but only the more universal and fundamental principles of morals and religion, illustrated by concrete examples and other suitable references. Under proper guidance this is calculated to improve the tone of a school or college, and inculcate in the minds of students the spirit of peace, harmony and love which will not only prove very helpful in the *formation of their character*—which is after all the true end of all education—but will also help towards the keeping up of discipline without the aid of any severe measures.

(iii) *Intellectual education.*—The present system over-emphasises the intellectual side. The holding of a university degree is regarded in most cases as absolutely necessary for securing a post in public service. This induces the student to pass his examination at any cost. And as examinations, as conducted at present, simply require the reproduction of a mass of facts, the student gets up one of the many sets of "notes" available in the market or dictated by his teacher. Thus he overburdens his mind with all sorts of detail at the expense of his body and soul. One hears occasionally of a student committing suicide because of his failure in a certain examination. The rigidity of the examination-system is mainly responsible for the excessive mental strain inflicted on the student.

No system of education is sound that does not provide for the development of all the aspects of our personality.

(*b*) The opportunities afforded to students for the development of their *social* instinct are not sufficient. In Calcutta, the teacher generally finds it impossible to meet the students outside the class-room and after college hours. The residential system should be so worked as to require every student to live in the hostel, and exceptions should be made only under very special circumstances. The social instinct cannot be sufficiently developed unless

the residential system is adopted even in big towns like Calcutta. In Lahore, for instance, this system is adopted in the Central Training College and is working satisfactorily. The formation of literary societies, dramatic associations, debating clubs and musical concerts will also prove useful. Students may be encouraged to organise and join picnic-parties and other excursions. The class-room should not be the only place of meeting: it should be possible to create a healthy *esprit de corps* if most of the students reside in the hostel.

(*c*) Examinations are considered the sole means of testing the students' attainments and efficiency. Mere success in examination becomes, therefore, the students' ideal, for the realisation of which they sacrifice their health and everything else. Independent thinking is stunted and unintelligent 'cram' is encouraged. Hence, the teaching also loses much of its freshness and inspiration and becomes more or less *mechanical*.

(*d*) There is, again, too much of teaching and too little of personal guidance and seminar work. The teacher is overworked—having had to deliver no less than 18 or 20 lectures a week, besides the "tutorial"—and consequently finds it impossible to carry on independent research in his own subject; while the student is overburdened with lectures; and as almost everything for examination-purposes is done for him by the teacher (in the form of "complete notes") he is hardly, if ever, called upon to exercise his power of independent thinking. The educational value of such teaching is *nil*. The function of the teacher is not to pour into the pupil's mind a few useful facts—that is mere *instruction*—but to draw out the innate mental powers and to lead the pupil to think for himself. Thus too much of formal lecturing should be avoided, the size of classes should be small, tutorial work and individual guidance should be regularly given, and every other effort should be made to train students in the habit of independent thinking.

(*e*) Teachers of colleges—including those in charge of their departments—have, in most cases, no control over the preparation of the syllabus. This task is entrusted to a set of teachers directly connected with the University, some of whom have no experience of the teaching-requirements in the junior classes. Even senior professors of colleges have to wait for several years before being nominated as members of the Senate, and till then they have no status in the University. *All* teachers engaged in the teaching of a certain subject should have a voice in the shaping of the syllabus of studies in their respective subjects.

SINGH, PRAKAS CHANDRA.

I consider the present system of education in the Calcutta University defective. Under it, it is possible for one to be an M. A. in English or a classical language, nay even in mental and moral philosophy without knowing the composition of water, or where the town of New York is, or who Cromwell or Alexander the Great or the Duke of Wellington were. I do not say this from imagination; I have actually come across cases justifying this observation. This is due to too early specialisation. It seems to me, by the time a student becomes a graduate, he should know the elementary principles of every important and necessary subject and one or two of them fairly well. What these important and necessary subjects are, may be determined by experts. Whatever may be the other subjects, European science and European history should most pre-eminently be two of them The following list is suggestive:—

(i) English Literature and language.
(ii) Vernacular literature.
(iii) A Classical Language.

SINGH, PRAKAS CHANDRA—*contd.*

(iv) History of India.
(v) History of England.
(vi) History of Greece and Rome.
(vii) Mathematics.
(viii) Physical science including chemistry.
(ix) Philosophy including moral science.

The Matriculation course should consist of:—

(i) English. (Prescribed text book.)
(ii) History of India. (Elementary.)
(iii) History of England. (Elementary.)
(iv) Mathematics—
  (*a*) Arithmetic.
  (*b*) Algebra.
  (*c*) Geometry.
(v) Geography of the whole world.
(vi) Some elementary work on hygiene.

The I. A. course should consist of a compulsory and an optional group.

Compulsory group.

(i) English.
(ii) Elementary course in physical science comprising heat, electricity, magnetism, light, sound and inorganic chemistry.
(iii) History of Greece and Rome.

Optional groups.

A. (i) A vernacular language.
  (ii) A classical language allied to (i).
  (iii) An elementary work on mental philosophy.

B. Mathematics—
  (*a*) Algebra.
  (*b*) Conic sections.
  (*c*) Trigonometry.
  (*d*) Statics.
  (*e*) Geometry.

If the suggestion is followed, it will be found that by the time a student has passed the I. A. examination he has gained some idea of some of the most important and necessary subjects and he will be able to use his own discretion in selecting subjects for specialisation instead of that of his guardian which in a large number of cases he does now. The I. A. examination should not be stiff, its object being to give the would-be graduate an opportunity of getting an idea of what there is in each one of the various subjects into which he has been introduced.

The principle that a graduate must know the elementary principles of all important and necessary subjects and some of them fairly well will be satisfied if a system can be elaborated according to the spirit of the suggestion made. A graduate turned out under such a system, will be a well-informed cultured gentleman—a fulfilment of the real object of high education.

I have laid special stress on physical science and European history, not only because they are the two best subjects of European education that our universities should impart, but also because it has been found that a fair acquaintance with physics and chemistry and English history is necessary for correctly and clearly understanding modern English literature including even such subjects as mental and moral philosophy.

SINHA, Kumar MANINDRA CHANDRA—SINHA, PANCHANAN—SIRCAR, ANUKUL CHANDRA—SIRCAR, The Hon'ble Sir NILRATAN.

SINHA, Kumar MANINDRA CHANDRA.

I do not consider the existing system of university education suited to give the fullest opportunity to Indians of ability.

In the following respects I consider it deficient:—

(*a*) The system of teaching is too cursory; there is a lack of thorough training, the classes in colleges being too overcrowded to permit good teaching. The colleges, moreover, are too few for the number of students. Generally, there is a lack of finance in the University barring the way to reform; and the colleges, owing to the meagre fees they charge, are unable to secure the best teachers; the premises occupied by such colleges also are not well situated.

(*b*) There is no adequate scope for technical and scientific training, as well as for physical culture, and altogether the present arrangements are far short of the demand.

The only remedy suggesting itself is far larger grants to be given for higher education, the fees for university instruction should be increased, perhaps doubled. Learning worthy of the name, should be acquired at its right value. The cheapening of the higher courses of university education must cause people to flock as mere acquirers of book-knowledge, which leads to the general emasculation of useful trades and professions, which suffer and which impoverish the country; while the University is mostly engaged in the training of people who rush to the learned professions, for which they have seldom scope and inclination.

SINHA, PANCHANAN.

The answer depends very much upon the kind of training that is meant. As regards general culture and training in pure science there is *now* a great opportunity for obtaining training of a very high order, if not of the highest. But as regards applied science and technology the University affords no opportunity of training at all.

SIRCAR, ANUKUL CHANDRA.

No.

Reasons:—

(*a*) Too early specialisation.
(*b*) Too much stress on examinations.
(*c*) Want of a certain number of very highly qualified teachers.
(*d*) Want of up-to-date and well-equipped libraries and laboratories.

SIRCAR, The Hon'ble Sir NILRATAN.

"Highest training" may mean "highest culture" and in that sense a certain proportion of our graduates obtain it in our University, though their number may not be very large.

If, on the other hand, the term means efficient practical training for competence to conduct research work, then certainly a fairly large number of our graduates, particularly in the scientific and professional lines, obtain it. The number of such successful students is increasing every year.

SLATER, Dr. GILBERT.

It is unnecessary to point out that university education in India is in many respects defective and in need of reform. If, however, the strictures on other universities in India which I have read are fully justified, my own experience leads me to the conclusion that the University of Madras must be distinctly superior. So far as Madras is concerned it appears to me that revolutionary changes are not required so much as a clear grasp of a reasonable and practicable ideal, and a continual progress towards its accomplishment as opportunity offers. My experience in Madras leads me to the conclusion that the necessary preliminary for this desideratum is that the University should have a real head. It should have a salaried vice-chancellor or principal, who should be a man of great ability and earnestness and a competent educationist. I have not the slightest doubt that the same conclusion is justified with regard to every other Indian university. Both British and American experience appear to me to indicate clearly that any young and progressive university imperatively needs the services of a suitable man who gives his whole time to working out the problems of the improvement and development of the University and the co-ordination of its different departments. Under the present system in Madras the ablest and most public spirited men who serve on the Syndicate can only give their spare time to the work of the University, and have a full day's work daily in the teaching of particular subjects in particular colleges. Hence they approach every University question with an unconscious bias. As a practical result the tendency is to throw the decision on questions relating to each particular study on its specialists. Students suffer, and the University, through the multiplicity of its guides, practically drifts.

I am inclined to think that the paid vice-chancellor or principal should be appointed by the Governor (or Chief of the Executive) of the province in which the University is situated; that his appointment should be annual, but should be renewed from year to year as long as he was desirous of continuing his work and appeared to be the right man at the place.

Assuming that a head of a university is appointed a question arises as to what executive powers should be entrusted to him. I do not think, however, this question is vital though it is important. I am of opinion that such a man as I have indicated, by his character, experience, and grasp of the problems of the University, would be able to achieve a great deal by persuasion, even if executive power were left entirely in the hands of the Senate and the Syndicate.

I put this matter in the forefront because I consider it both the most important of all immediately practicable reforms and also a necessary condition for the success of any further plans of reform that may be adopted. I think this probably applies to Calcutta equally with Madras.

SMITH, W. OWSTON.

In a few large colleges such as Presidency, Calcutta, they have very fair opportunities at some times, when the staff is kept up to the mark and not depleted by the lecturers being transferred to other posts. In smaller colleges, or colleges under private management, the opportunities are inferior.

STEPHENSON, Lt.-Col., J.

No. Teaching is given too much in the mass; even in many of the highest classes the numbers taught together make individual contact between teacher and student largely impossible (*e.g.*, in M.A. English classes). The teacher usually has not time for weekly interviews with each student individually, or with small numbers, for discussion of essays and for informal and stimulating conversation. The highest training can never be given in the form of mass teaching.

STEPHENSON, Lt.-Col. J.—*contd.*—SÜDMERSEN, F. W.

The highest training includes a training in the methods of research, and the execution of some piece of research by the student under the direction of the teacher. This is I believe seldom required in India of candidates for the Master's degree (the Doctor's degree, which exists theoretically in many or most universities, is seldom,—perhaps hardly ever,—taken).

The numbers of teachers who are capable of giving the highest training is small; of those, who are actually taking M.A. classes my impression is that the majority are not personally familiar with the methods of research, and have not themselves produced a serious piece of scholarly work,—and certainly do not regard it as their duty to be regularly engaged in such work.

Even leaving aside research, and looking at class teaching only, the highest teaching simply is not given in many subjects. The content of the M.A. English syllabus in many universities will, I imagine, illustrate this.

SÜDMERSEN, F. W.

The existing system of university education does not afford to young Indians of ability any opportunity of obtaining the highest teaching. The young Indian of ability entering college finds himself in the company of a large number of fellow students almost uneducated, who have succeeded in passing through a low admission test and are incapable of following with any intellectual grasp a university course of instruction. The lectures, so called, have therefore to be reduced to a level below that of the average in order to secure a reasonable output of success. The standard put before the student in the intermediate and graduate courses is a standard so low that no great effort is called for and the best student finds that academic success can be obtained by the smallest effort. The reaction upon the staff results in a deterioration of teaching. The want of a separate tutorial staff loads the senior teachers of a subject with a mass of mechanical drudgery in the carrying out of which they lose whatever enthusiasm they originally brought with them. The large numbers found in classes, combined with the conditions under which the work has to proceed, makes real individual attention almost an impossibility. The tendency to transfer the higher teaching of the University to one centre deprives the teacher of any incentive that may result from the securing of a few advanced students to carry on work under his direction.

The degrees obtained have so deteriorated in value that a student now finds that only the M.A. first class is recognised as conferring academical distinction of any worth and fears are already being expressed that even this will cease in a few years to confer any distinction.

The whole system of education as controlled by the University merely fastens a heavy load upon those who seek a substantial hall-mark of educational efficiency.

If the University would but raise the standards throughout, so that the Matriculation really marked a student off as one who had acquired a definite substratum of knowledge of facts and some limited powers of reasoning about them, a University course would hold in it some promise of affording a mental and moral training having some relation to the functions of a University.

The absolute want of mental equipment in the entrants to our colleges degrades colleges to the level of schools and affects the whole working of the University. The quantitative measure overrides all considerations of quality and in the outcome ruins both teachers and taught. The wide choice offered in the questions set, if it were accompanied by a rigid standard of attainment, would secure a valuable advance even in the present general unsatisfactory condition of schools and colleges. But not only is the percentage of marks required to pass very low, but even this low standard is not insisted upon, supplementary considerations being introduced when any marked fall in the reported success appears imminent.

I quote from a note submitted by a member of this staff:—

> "The present system is like a soul-destroying machine and the young Indian of ability is ruthlessly sacrificed to the mediocre student. If the young Indian of ability passes through the system he will lose all his soul and half of his reasoning capacity in the process. It is easier to point out defects than suggest remedies. The aforesaid young Indian of ability wastes seven years of his life in worthless schools and on going to college

suffers from the tyranny of the text-book and from the fact that the needs the University attends to are not his needs but those of the mediocre. In dealing with this question, and with all others, it is important to realise that it is not so much the paper constitution of things that is defective, although possibly there could be improvements, as the practical working out."

SUHRAWARDY, HASSAN.

No. Inasmuch as it does not afford opportunities for research work. There is a great want of healthy social intercourse between the teacher and the pupil and the absence of " 'Varsity life " is very apparent.

SUHRAWARDY, Z. R. ZAHID.

No. Some of the defects in the present system are:—

(*a*) Want of facility for research work.
(*b*) Absence of well-appointed laboratories and libraries.
(*c*) Absence of closer relationship between teacher and student.
(*d*) Want of encouragement for higher training due to absence of any career other than in the educational line.

TARKABHUSHANA, Mahāmahopadhyayā PRAMATHANĀTH.

The answer to this question is, to a great extent, and with some reservations, in the negative, although the expression " highest training " will naturally be interpreted in different ways by different persons. Taken in connection with the motto " Advancement of Learning " an alumnus leaving the portals of the University would, in my opinion, be said to have received the highest training when he carries away with him—

(i) A sound body.
(ii) Sound moral habits.
(iii) A disinterested love of ideas or a genuine intellectual curiosity.
(iv) Logical and retentive faculties fully developed.
(v) A mind furnished with a substantial portion of available human knowledge in his own department—a special culture.
(vi) A general acquaintance with the different realms of nature and departments of human thought—a general culture ; and particularly, if he intends to be a teacher.
(vii) An enthusiasm for the dissemination of the knowledge acquired by himself.

The failings of the existing system in these respects would be detected from the following considerations :—

(*a*) Care of the body is left by the University entirely to the inclination of the students.
(*b*) Rigid moral principles are usually lacking, being replaced by opportunism or eccentricity.
(*c*) A genuine and disinterested spirit of inquiry into their special subjects of study is rarely the fruit of university education, so much so that, with a few honourable exceptions, lecturers and professors are not generally seen working on the edge of their subjects, and are satisfied with performing their appointed shares in the routine of the college.
(*d*) A revulsion of feeling against the inconsequential subtlety and Neo-Nyāya logic-chopping associated with the *Tols* (expressed for example in Dr. P. C. Roy's Abuse of the Bengali Brain) has carried the present generation to the opposite extreme of neglecting dialectic culture. The paucity and lifelessness

of seminars and debating societies are a cause and an indication of this. Similarly, cram and its natural evils have brought intelligent memorising into disuse.

(*e*) Specialisation begins under the present *regimé* before the student lays up the requisite amount of general information. The encyclopædic ideal of scholarship contained in the conception of *Āchārya* seems to be passing out of our ken. To say that such ideal was entertainable when the circle of knowledge was circumscribed and the Shastras were capable of easy synthesis is not a sufficient answer. The University ought to promote and conserve this ideal.

(*f*) Few students take to educational work by free choice. The profession of education is the last refuge of those who have missed other lucrative avenues of income.

THOMSON, Dr. DAVID.

I have no doubt that somewhere in India, in most subjects, young Indians of ability will find full opportunity of obtaining the highest training under the existing system of university education. The trouble is less in the system than in the fact that the facilities are, mainly for financial reasons, not general enough. This is a difficulty which time will eradicate.

The existing system, or rather the carrying out of the existing system, is, however, defective and fundamentally defective in the following respects:—

(*a*) The standard of the matriculation examination and consequently of high school education is too low with the result that our colleges contain a large percentage of youths whose educational attainments and capacity make real university work difficult if not impossible. Hence it is that the first two years of college life are spent on what is essentially school work.

(*b*) There is so much routine work to be done that a conscientious professor, at least in the mofussil, finds very little time for research, even when he has facilities. Moreover his success or failure as a professor is judged mainly by his success or failure to secure a high percentage of passes at the university examinations.

The first defect is perhaps unavoidable in a country where education is still in its infancy and where the supply of trained and capable teachers is hopelessly inadequate. The disquieting feature is the tendency for the standard of admission to our colleges and consequently of work in our schools to fall instead of to rise.

The second defect is partly an offspring of the first defect, partly due to the fact that the examination system is so largely external. The external character of the examinations is unavoidable so long as the Calcutta University consists of colleges scattered over thousands of square miles of territory as at present. The cure lies in the establishment of smaller universities at suitable centres.

TIPPLE, E. F.

In considering the advantages to be derived from a university education, it seems necessary to distinguish between the benefits due to:—

(*a*) The intellectual environment,

(*b*) The social environment.

In English universities the intellectual attainment, necessary for a pass degree, is by no means high and any advantages obtainable in such cases come for the most part under (*b*).

In India with its complicated caste rules, which necessarily hamper social intercourse, the benefits from (*b*) are naturally more limited than is the case in England

Nevertheless there is no doubt that, to some extent, they do exist and that they are tending to break down caste barriers.

So far as the "highest training" is concerned, this must include both types of benefit and the possibilities in these directions at Indian universities are not so great as is usually the case in western countries.

In India it is generally recognised that the first two years' work at a university is frankly of a school standard, and that the great majority of university students do not attain an intellectual level higher than that of a pass degree. It is probable that the total number in each year, from all the Indian universities, reaching a standard not lower than that of a third class Oxford or Cambridge honours degree, could be accommodated at a single university centre. If it were possible to start a centre for such a purpose (*i.e.*, the education of this modicum beyond the intermediate stage) it would serve to set a standard for this country comparable with those obtaining in other lands. One of the chief difficulties of educational work in India, at the present time, lies in the creation of an educational atmosphere imbued with such a standard. Without this atmosphere, more equipment in the way of staff, libraries, laboratories, etc., can be productive of but slight advance. It would, therefore, seem advisable to concentrate on the production of such a standard at some one centre adequately equipped.

It has, on occasion, been stated that the existing system of affiliated institutions has been the cause of turning many good schools into bad colleges; without entirely agreeing with this indictment against affiliation, it may be suggested that a reversal of the process is necessary and that a serious attempt be made to change bad colleges into good schools.

At the present time in India the highest classes in the schools only attain the matriculation standard, though some improvement is being gradually effected by the introduction of a school leaving certificate examination. It is this poor standard of attainment in the highest classes of the secondary schools which presents the greatest obstacle to the development of a standard of Indian university education comparable with that existing in the west.

TURNER, F. C.

I do not consider that the existing system of university education affords to young Indians of ability full opportunity of obtaining the highest training.

(*a*) In the first place, there is the fundamental difficulty that there is absolutely no school in Bengal (and I believe in the Provinces of Bihar and Orissa and of Assam) which is fit to train its pupils up to the standard necessary for entrance on a university course. A fair number (but by no means the majority) of high schools possess good buildings and a few have adequate libraries but they are nearly all ill-furnished and are all deficient in equipment and very deficient in staff. No attempt is made to give the pupils a broad general education, the teaching is from the lowest classes entirely subordinated to the matriculation examination. If a pupil passes through the highest class at an age below the minimum for Matriculation, he is not given work in advance of the rest of the class, but is allowed to mark time for a year.

(*b*) In the intermediate classes the teaching work is of even a lower standard than it is in the schools. In fact it may be broadly stated that there is no attempt made at teaching these classes. In the majority of colleges there are between 100 and 150 students at each lecture and the lecturer either dictates notes or lectures without intermission throughout the hour. It is very exceptional for a lecturer to keep himself assured that the class as a whole is following him or to give any opportunity for the explanation of difficulties that may occur in the course of the lecture. To students who have not had a thorough grounding in English in the schools and who are not trained to take notes, such work is practically useless; and it is not surprising that students on the whole regard lectures as a handicap

prescribed by the university and turn to the text-books, in which are to be found notes not inferior to those dictated in class and much more accurately written, as the best method of getting through their examinations.

[*N.B.—The above remarks, and similar remarks which follow, are not intended to apply to the science classes. I am not a teacher of science but my impression as principal of a college is that the science teaching is very far in advance of the teaching in any arts subjects.*]

(*c*) The condition of things in the B.A. pass classes differs in degree, but not in kind, from that in the intermediate classes. The students are better equipped in that they have passed the intermediate examination, the best conducted of the three examinations for the pass degree; but it is rare to find a student who can make adequate use of anything that can properly be called a lecture; it is essential that the teacher should keep himself in touch with every individual in his class, an impossible condition in classes as large as they are at present.

(*d*) In many colleges the evils indicated in the two preceding paragraphs are recognised and the lectures are supplemented by "tuition" classes. But these classes commonly comprise upwards of 40 students and the work done in them can differ but slightly from that done in the ordinary "lectures."

(*e*) The work of the B.A. honours and M.A. classes is probably far better done than that of the pass classes. But all students, except the very few brilliant students who have been able to rise above their conditions, are mentally stunted before they reach this stage. It must also be stated that though there are a number of enthusiastic and devoted scholars (both Indian and European) engaged on this work, the majority of the lecturers are not sufficiently well equipped for advanced teaching.

(*f*) The physique of students who reach the highest stages of instruction is, as a rule, so lamentably poor as to be a serious handicap in their work. No statistics have, as far as I know, been prepared, but I have no doubt whatever that the physique of students in the M.A. classes is distinctly inferior to that of Bengalis of the same age in other walks of life.

VACHASPATI, SITI KANTHA.

No. There is not sufficient scope for independent thinking; more encouragement should be given to students for original research work; provision should be made for religious education to help formation of character; physical training should be extended on a larger scale; the number of hours of class-work should be reduced and encouragement should be given for freedom of thought and reading and the formation of students' associations for literary purposes; arrangements should be made for the occasional visits and lectures of eminent professors of foreign universities and of scholars of European reputation.

Considering the poverty of average education in the country, I think that the percentage of passes in the university examinations should not be curtailed.

VICTORIA, Sister MARY.

We do not consider that the existing system of university education does afford to young Indians of ability full opportunity of obtaining the highest training.

There is no opportunity of specialisation in accordance with individual tastes on individual lines.

The number of subjects taken, the syllabus of certain subjects, the type of question set, the excessive number of questions, all place a premium on cram.

All language syllabuses are too slight.

The botany syllabus should be extended; at present it does not include physics and chemistry: the elements of these subjects are necessary to the real study of botany.

VICTORIA, Sister MARY—*contd.*—VIDYABHUSAN, RAJENDRANATH—WAHEED, Shams-ul-Ulama ABU NASR.

The mathematical syllabus appears quite good; but, at the examination, so many questions on book work are introduced that it is possible to pass the examination on mere cram work. We consider that it is possible to set such papers for the examination as preclude cram, and necessitate a real study of the subjects taken. At present, the good student is at a great disadvantage. The bad student who learns questions and answers from cram books (sold at four to eight annas in the bazar), who pools notes with students from various colleges, who rarely if ever opens a text-book or a reference book, is the student who is most likely to get a good pass.

VIDYABHUSAN, RAJENDRANATH.

At present the University's sole concern is to coach students to secure a large number of passes; sufficient scope is not given for intellectual culture, *i.e.*, independent thinking and original research are not sufficiently encouraged.

WAHEED, Shams-ul-Ulama ABU NASR.

If true education means, as it does, the training of the mind, body and character resulting in a harmonious development of the whole, the existing system of University education hardly affords to young Indians of ability *full* opportunity of obtaining the highest training. Under the present system attention is almost exclusively directed to the development of mind, which again is measured by the amount of success at a mechanical examination conducted by an external machinery and requiring more or less a reproduction of memory.

The main defects of the system may be summarised as follows:—

(*a*) Impersonal contact of the University with the incorporated colleges.

(*b*) A large number of widely separated colleges held together by an inelastic system of mechanical examination and by regulations.

(*c*) Dominance of examination. Passing an examination is considered the goal of university education. In fact, the University is commonly understood as nothing more or less than an examining machinery.

(*d*) Concentration of energies upon text-books and wide syllabuses imposed by an external agency for the purpose of examination, to the exclusion of other activities.

(*e*) Falling back upon notes, summaries, digests and other devices repeated year after year for the ordeal of examination.

(*f*) Lack of the personal guidance of teachers of first-rate ability and character in general.

(*g*) Restricted scope of individuality in teaching and in method.

(*h*) Examination by persons not cognisant of the capabilities of the students, not acquainted with them or with their college record and career or with any side of their development except that of their power of memory as reproduced in their answer papers.

(*i*) Lack of corporate life within the University.

(*j*) Want of academic atmosphere and social intercourse between the teachers and the taught.

(*k*) Want of scientific co-operation.

(*l*) Want of an effective tutorial system.

(*m*) Lack of adequate supervision and control outside the college precincts and of security against undesirable neighbours. Even where there is an attached hostel or mess a couple of superintendents, not necessarily belonging to the college staff, with the assistance of the durwan, can keep the students confined within the compound during the night. Beyond that their supervision is very limited. They cannot control the students' movements by day nor can they make sure that the large number of students are really at work in their respective rooms, not to speak of any organised tutorial work which they can carry on.

(*n*) Very little care is paid to moral and religious education. In fact, as referred to in the concluding paragraph of the Government of India's letter, No. 1259—1264 of the 4th September, 1911, such a system of education tends to develope the intellectual at the expense of the moral and religious faculties. This is a most serious defect in the present system of education. It may be noted in this connection that moral instruction, without reference to religion or based on a utilitarian point of view, is not so effective or appealing to Indians, more particularly to Musalmans. I agree with Mr. Archbold that "'moral text-books' have a somewhat forbidding sound, and I must confess, that I am not a believer in moral teaching as apart from religious basis. It rather suggests a roundabout way of doing things."

(*o*) Inadequate provision for physical culture.

WALKER, Dr. GILBERT T.

No. The highest training can only be obtained from first-rate teachers, with good equipment in libraries and laboratories. A university teacher is not first-rate unless he has a high standard of knowledge and great enthusiasm for his subject, and is continually carrying on research in it. The standard of a university teacher in India is not nearly as high as that of an average Cambridge college lecturer, and far lower than that of a Cambridge professor. Englishmen do not come out to the educational service of India if they can get a moderately good appointment at home, and the few Indians of really high scientific attainments are tempted to join the Civil Service by its much better prospects.

Again the climate of most educational centres is very pernicious in destroying in Englishmen and Indians alike the energy required for research, and there is nowhere to be found the stimulus of a 'school' like that of Sir J. J. Thomson at Cambridge or Professor Rutherford at Manchester.

WATHEN, G. A.

I consider that the existing system fails to afford full opportunity of obtaining the highest training (my experience is entirely limited to the Punjab so far as India is concerned, and in Europe to Cambridge, Paris and Bonn). To apply the word university to most of the affiliated colleges of the Punjab, is to use a misnomer. The existing system suffers because it is an apex without a pyramid. There are no schools corresponding in the least to the kind of schools in the west whose best boys can obtain open university scholarships. Any intelligent boy of fifteen can matriculate in this University and the effect of limiting the age has been to keep boys marking time at school and not to improve the standard of teaching in the schools.

WEBB, The Hon'ble Mr. C. M.

Without possessing any detailed knowledge, I have a general impression that the existing system is deficient in being too purely intellectual or cultural and not sufficiently scientific and vocational. A cultural system of university training is perhaps the highest type of training, provided:—

(*a*) The students have a high degree of intellectual curiosity;

(*b*) The students are not likely to be thrown into the stress of a strenuous struggle for existence.

I doubt if these conditions are fulfilled in Bengal; they certainly are not in Burma. In such circumstances I think it should be frankly admitted that while the university course should be designed to give the highest possible intellectual and cultural training, it should be based on a preparation for the vocation a student intends to pursue. His profession

WEBB, The Hon'ble Mr. C. M.—*contd.*—WHITEHEAD, The Right Rev. H.—WILLIAMS, Rev. GARFIELD.

or calling will be the most potent influence in his life, and it is through the preparation for, and exercise of, his professional duties that the highest intellectual development can be given. The divorce of culture from vocation reacts unfavourably in both directions. Culture becomes arid and pedantic, and professional duties become mere drudgery and routine.

WHITEHEAD, The Right Rev. H.

The main difficulty in the way of reforms in the existing system consists in the large number of students in the colleges, who are not fit to receive a university education. About 70 per cent. of the students who now go to the University are incapable of studying the subjects as they ought to be studied at a university and cannot be taught in the way in which the ablest students ought to be taught; and both the methods of teaching and the methods of examining are necessarily adapted to the majority. Until these students can be excluded from the college classes it is practically impossible for the best students to be properly taught; at the same time the education given is not really suitable for the majority. The only remedy seems to me to be to improve the high schools and enable them to give a type of education fitted for the majority of the students that now go to the University and to raise the standard of the entrance examination and of all the university examinations above the entrance. Until this is done, I doubt whether any great improvement can be made in the university system of education, so as to enable young Indians of ability to obtain the highest training. The only alternative, I think, is to leave the present system for pass students as it is, endeavouring to adapt it more to the needs of the majority, and then to try and build up a better system of education for the abler students by developing the honours courses as fully as possible.

WILLIAMS, Rev. GARFIELD.

The answer is in the negative.

(*a*) Under the present system "young Indians of ability" are herded together for instructional purposes with "young Indians of little or no ability." The pace of a class in the better colleges is the pace of the *average* boy, and in the worse colleges is the pace of the slowest boy. In the better colleges, especially where teaching is undertaken by Europeans or by Indians who do something other than merely dictate notes, the great majority of students who are incapable of profiting by university education simply "go to the wall" and swell the ranks of the army of 'failed F. A.'s' and 'failed B. A.'s.'

In the worse colleges the whole teaching descends to the level of the worst students, and the "young Indian of ability" gets pushed down to that level; often with the result that he becomes a "slacker" and uses energies which might have subserved the purposes of intellectual attainment for other and less worthy ends.

(*b*) Apart from the gathering together of good and bad in one class, the very fact that the method of teaching adopted for these "young Indians of ability" is to herd them together in classes which often number over 100 students and sometimes even 200, makes education, qua-education, impossible. It is not as though these huge classes were of the nature of courses of lectures delivered by some lecturer of repute and supplementary to other educational methods familiar to those acquainted with European and American universities. In Calcutta these huge classes are for the most part the only device used. It is the considered opinion of the writer of this note that though they succeed in

WILLIAMS, Rev. GARFIELD—*contd.*

imparting a certain amount of information to the "young Indian of ability" they succeed in *educating* none. To the young Indian of little ability,—*i.e.*, the majority who attend them—they are worse than useless. The information which such collect is garbled and they emerge comparatively useless members of society with a sense of injury. And when their parents realise their futility, incapable as they are of re-entering the old economy of the Indian family or of carving out a way for themselves in the great world beyond the boundaries of that Indian family, these parents feel injured too. And they do not blame their sons, nor do they blame the University, they blame Government—the traditional scapegoat.

(c) For all practical purposes the present system of class teaching in Calcutta University involves:—

(i) The teacher's ignorance of the student (often even of his name) and all that the lack of personal contact between teacher and taught involves. (Only those who know the inspiration of a teacher's friendship can estimate the magnitude of this disaster, and in estimating it they must remember that this boy has never even had it in his school).

(ii) The teacher's lack of acquaintance with the students' particular difficulties which contributes to the inadequacy even of his lectures.

(iii) The impossibility of any adequate written work.

It is almost impossible to imagine what this means. For instance, try and think of giving any idea of the meaning and scope of history and any conception of historical method simply by means of set lectures and dictation of notes. No essays, with the personal correction and estimation of the same, are possible. If attempted, the work of the teacher must necessarily be of the most perfunctory kind.

(iv) The likelihood that even this sole method of imparting instruction will come infinitely far short of its possible educational attainment on account of:—

(1) Lack of discipline in the class.
(2) Lack of rhetorical power on the part of the teacher.
(3) Lack of knowledge on the part of the teacher.
(4) Lack of teaching ability on the part of the teacher.
(5) Lack of preparation for it on the part of the teacher.

Everything depends on the teacher, and however good he may be at first, the system usually destroys all possibility of development in him.

If the points suggested here have any validity, it must be obvious that the "young Indian of ability" does not have an opportunity of obtaining the highest training.

(d) It may be suggested that some of the failure of this method is obviated by the additional lectures of university professors. But this is not the case These professors do not assist the thousands of students who are having the foundations of their university education laid in the early years of their college life, and by the time such students of reasonable ability might be supposed to be able to appreciate more advanced lectures, the majority of them have had their enthusiasms damped and their capacities ruined by the training they have received.

(e) Under this head I group certain contributory causes of failure, most of which are dealt with in detail later, such as:—

(a) The inadequacy of the social life of the University.
(b) The inadequacy of the athletic life of the University.
(c) The badness of the surroundings in which the student works.
(d) The incapacity of the student to supplement lectures by the use of a library.

(e) The pressure of family affairs, to alleviate which the University does not do even the little that it might.

(f) Last, but by no means least,—indeed probably the most potent factor of all—the absolute failure of his school career to fit him for higher studies in the University. This must be mentioned at this point because the University undoubtedly contributes to this by its Matriculation examination.

Note.—An instructive comparison

The only present day university teaching that I can find which is in any way analogous to that given in Indian universities is that of the Spanish ecclesiastical universities. On the whole, the results of the education given in these Spanish universities is amazingly good, and the results of that given in the Calcutta University are amazingly bad. A comparison of the two types may therefore be expected to shed some light on the problem. In both cases:—

(1) Classes are large.
(2) Lectures (often little better than dictation of notes) are the sole means of imparting instruction.
(3) There is no contact between teacher and pupil.
(4) Libraries (in Spain for ecclesiastical reasons) are of little use to the student.
(5) The teaching is in a foreign language. (In Spain in Latin, in Calcutta in English.)

In Spain the results are remarkable. Within the limits of a fairly large intellectual area confined by ecclesiastical dogma, a very sound training is given and real scholars are produced in considerable numbers. In India no such result is to be seen. Is this due to the fact that an Indian boy is of an altogether inferior calibre mentally? Those of us who have come into contact with the Indian boy are quite convinced that this is not so. At the age of eight to ten he affords as good intellectual material as the boy of any other nation. It will be useful then to state the differentia between the two systems.

In Spain.—The previous school training is divided into two parts, the second part of which is a definite training preparatory to university education.

Parents consult the school master as to whether the boy is likely to profit by the teaching in the secondary school and practically invariably follow the teacher's advice.

In the secondary school, by a process of yearly school examinations, those unfit for university education are rigourously weeded out so that very few succeed in entering the university who are not fit for it.

In the university the course is much longer than in the Indian university and the process of weeding out the unfit continues during the early months of the university career. The professors' opinion concerning unfitness is always accepted by the parents.

No political, social or economic considerations affect decisions made in respect of the commencing or continuing of a university career.

In these ecclesiastical universities, the students live in hostels under a most rigourous discipline.

The teachers are real specialists in their subjects. Even so, the Spanish student bitterly complains of his lack of personal contact with professors who feel it beneath their dignity to "descend" to tutorial work or friendly relations with their pupils, and the rigidity of the system is always felt to be a hard yoke.

WILLIAMS, L. F. RUSHBROOK.

It is quite impossible to dissociate the problems of school education from those of university education, and a necessary preliminary to university reform is a reform of the school system.

Such a reform should entail:—

(*a*) The reduction of many inferior colleges to the grade of pre-university institutions.

(*b*) The diversion from the University of the thousands of students who seek its portals to obtain a "ticket" for the lottery of Government service.

(*c*) The provision of a sound school education, up to the age of 18 or 19, at the headquarters of every district.

But if, for the purposes of the Commission, it is desirable to conceive of university education as a watertight compartment, artificially isolated from the larger whole to which it belongs, the principal defects under which the present system labours may be thus outlined:—

(*a*) The "affiliating university," extending over a wide territorial area, is little more than an aggregation of separate colleges. These colleges, with their slender resources inadequate equipment and overburdened staff, are compelled to do the work of "pocket" universities. They have to teach too many subjects. Naturally they teach them badly.

(*b*) These multitudinous college staffs, all working upon the same lines, are wasteful in effort and inadequate in performance. Specialisation becomes impossible, because the college professor, overburdened by the number of his pupils and by the necessity of covering the whole range of his subject, has neither the inducement nor the opportunity to undertake higher study. Further, it is a common experience that where a college professor has acquired a reputation for original work, he has done so at the cost of stinting the energy devoted to his ordinary teaching.

(*c*) This failure of college professors to specialise, resulting as it does from the scattering of the available teaching resources of the University over a wide area is a serious thing for the Indian student. In every subject he has to content himself with the lectures of one or two professors, who have to cover so much ground that their efficiency suffers. He has no opportunity of attending the lectures of experts, who have made themselves masters each of a small branch of a great subject.

(*d*) Owing to the intimacy of the connection which at present exists between a university career and Government service, the colleges are crowded with students who have no interest in learning, no intellectual qualification for admission to the University, and no capacity to profit, save financially, by such training as they receive. The pressure exerted by these overwhelming numbers of intellectually inferior students would have exercised an evil effect upon many systems of higher education far more robust than anything India can boast.

(*e*) On the one hand, the average student is so badly prepared for entrance to the University that in his first two years he is doing school-work: on the other hand, the training he receives in the isolated college which represents all he ever sees of the University, is not such as to supplement the defects in his intellectual equipment.

(*f*) As an inevitable result of this system of "pocket universities" scattered up and down the country, the defects in the average library to which the arts student has access, are only equalled by the defects in the laboratory where the science student is expected to work. Government has spent thousands of pounds upon libraries and laboratories: but instead of creating half-a-dozen first class university libraries and a similar number of good university laboratories, the money has been dissipated in the creation of hundreds of fifth-rate libraries and worthless laboratories in inferior colleges.

(*g*) The colleges situated in the university town should be corporate bodies within the wider unity of the University. The University must control all teaching, leaving merely tutorial functions to such members of the college staffs as do

not occupy university teaching posts. The University need not regulate conditions of residence in the colleges, but must exercise effective control over the discipline of students, and must be recognised as superior to the college authorities in all cases where a conflict between the two bodies may arise. Corporate life in the college, with its attendant social influences, must not, however, be allowed to suffer and college traditions, where these exist, should be safeguarded. Where college traditions are not strong, or where an entire reorganisation of the existing system is possible, the American plan of identifying particular colleges with the headquarters of university departments, has much to recommend it. Whether this be adopted or not, there must be for all colleges a common system of university lectures, a common university library, organised in departments as convenience suggests, common university laboratories, and common university institutions such as clubs, playing fields, literary and athletic associations.

The University can exercise no sort of control over colleges lying in other centres of population. Until these centres can develope universities of their own, the University must admit students of mofussil colleges to its examinations, but it cannot assume responsibility for the instruction of such students.

The University cannot undertake the supervision of outlying colleges without undue waste of time and dissipation of resources. It must leave these colleges to the operation of natural selection, while giving every facility for students from such colleges to present themselves as external students at university examinations.

So far as colleges incorporated in the new type of centralised University are concerned the designing of courses and the conduct of examinations, are functions of the University and not of the college. In respect of the mofussil colleges which send up their students for examination, it should be the aim of the University to give them all possible freedom by the prescription of well-planned and elastic courses of study.

A new centralised teaching University in Calcutta should not concern itself with colleges not incorporated, save in so far as it must admit their students as "external" candidates to its examinations. Before any radical reform of higher education is possible many of the mofussil colleges must become institutions of pre-university standard: those which survive will ultimately, we hope, develope into true universities. Meanwhile, the new centralised universities must admit external students, but leave the unincorporated colleges to conduct themselves as they see fit.

WORDSWORTH, The Hon'ble Mr. W. C.

No. Students do not learn to work for themselves except in the highest classes (M.A. and M.Sc.), and even there not to any great degree. The majority can merely listen to lectures and learn up notes. Few develope any capacity of mastering books for themselves, and in such subjects as, *e.g.*, history, few are able to examine original material, or to arrive at judgments from the examination of different views and interpretations. Our students aim at the amassing of information rather than at the development of mental habits and attitudes. This I ascribe to:—

(*a*) The educational traditions of the country.
(*b*) Linguistic difficulties.
(*c*) Unsatisfactory education in schools.
(*d*) Size of classes.
(*e*) Poor equipment of libraries in books and accommodation for readers.
(*f*) Unsatisfactory curricula, including the custom of prescribing definite books for examination purposes.
(*g*) General lack of quietness among students except when professors are present.
(*h*) Extensive manufacture of keys, summaries, etc.

ZACHARIAH, K.

My answer to the first part is "No." The following are, it seems to me, some of the chief points in which the existing conditions demand drastic change :—

(*a*) Most of the colleges, at least in Calcutta, are, in size, universities ; several have well over a thousand students. There are two reasons for this overcrowding, first, the fact that room has to be found somewhere for the many thousands who pass the Matriculation every year : secondly, the financial exigencies of colleges, especially private colleges, which render large numbers a matter of necessity and occasionally of profit. But, there can be no doubt, that educational efficiency suffers terribly from overcrowding. The college can never meet together as an entity ; its corporate character is a "legal fiction". Only a small proportion of the students can reside in college hostels ; for only a fraction can athletic facilities be provided. There can be little college life apart from lectures ; and the classes are very large. No tutorials are possible, and the students can never come into personal contact with the teachers. After all, the personal element is the most influential in education. Unless there are tutorials, Plato's "spoken word," which can question and answer and defend itself, has no play ; it is the dead written or dictated word that is the educative agency—a very imperfect one. A system that does its best to eliminate personality is self-condemned.

(*b*) The University is really a school. What I mean is that it tends to be dominated throughout by school methods of work. I speak only of arts teaching, not of science. But in arts, the initial fault is the low standard of the matriculation examination which admits a man to the University. Closely connected is the fact that you may be a member of the University at the mature age of sixteen. The inevitable result is that the intermediate classes have to be taught in exactly the same way as classes in school. School methods, thus introduced, are never really discarded. To Calcutta might be applied with perfect fitness what was written long ago of the old English universities, that the "seats of knowledge have been for the most part heretofore, not *laboratories* as they ought to be, but only *schools* where some have taught and all the rest subscribed." In the multitude of lectures, thought is lost. Thought is the very life and spirit of a university, but you cannot think to much purpose in crowded class-rooms ; and the Calcutta student is not often taught to think, nor does he need to. The critical spirit which discriminates, discards, selects for itself is never inculcated ; there is something very like the medieval reverence for the *scripta verba*. The ordinary student never learns to do his work for himself ; the lecturer is expected to cover the whole ground. I know of an M. A. student who changed his 'special subject' for the sole reason that the lecturer offered only tutorial help, instead of lectures, on a certain part of the subject. Students, even 'post-graduate' students, scarcely ever take down notes for themselves. The unfortunate lecturer who feels he has anything worth saying is compelled to dictate notes, word by word. Indeed, some lecturers do very little or nothing more. It seems strange that in a country with printing presses, this sort of thing should happen. Many students are incapable even of finding out the right books to read for themselves ; it is part of the lecturer's duty to tell them exactly what and how many pages to read. M. A. students some times ask for more analyses of prescribed books, which they fancy to be too difficult. If all this is not school work and method, what is ?

(*c*) The case of the ordinary teacher is equally sad. I say 'ordinary' advisedly, not meaning to include the newly appointed body of 'post-graduate' lecturers. There is no co-operation in lecturing between the different colleges, and each college has to have a self-complete staff. The result is that the college teacher is heavily overworked and has perhaps to give 15 or 20 lectures,

ZACHARIAH, K.—*contd.*

a week. He is left with neither time nor energy for special studies of his own and often does not even keep abreast of the latest results in his own department. He is like a gramophone that re-plays the old records. He is a lecturer but often not a student. In such an atmosphere, no academic tradition can grow; there can be nothing like a real senior common room. There is none of the stimulus and intellectual exhilaration of a real university. The absence of tutorials and the fact that he can meet his students individually only in the corridor and between lectures, as a rule, takes away half the joy and attraction of the teacher's vocation. The most glorious, exacting and personal of all professions becomes as mechanical as keeping accounts.

Add to all this the fact that, under the new 'post-graduate' scheme, the college lecturer as such, with a few exceptions, is degraded to an inferior position and can never take part in the highest university work. Whatever reasons there may be, the fact remains that there are now two classes of teachers in the University—an unfranchised class of "Helots" who have the greater share of teaching work and are more numerous, but have no voice in the direction of affairs; and a superior class who monopolise the highest work, set the standards, and are, as a rule, the examiners. And it is not easy to gain the franchise. This permanent relegation to an inferior grade is not exactly stimulating to those who suffer from it. Surely it is as demoralising to have responsibility without power as to exercise power without responsibility. Further, the college students do not, as a rule, ever have the chance of being taught by the men who are doing the highest work.

(*d*) Then I should mention the dominance of education by examinations and the scramble for degrees. (See my answer to question 9 for elaboration.) This is corrupting in the highest degree and really poisons the very fountains of learning. "Arithmetic," says Plato in the Republic, "is an excellent preliminary to philosophic study, if pursued for the love of knowledge and not in the spirit of a shopkeeper." This goes to the root of the matter—for in Calcutta, not only arithmetic but even divine philosophy itself is too often pursued in the mercantile spirit. In consequence, the search is usually abandoned at an early stage, because the real object, which was something else, has been obtained. Even the courses of study presuppose that when a man has taken his degree, he will study no more. There is nothing left for him to study, at least in his own subject. In history, for instance, the unfortunate B. A. honours student will, according to the new curriculum, have to study the whole history of the world with insignificant exceptions. That is his work for two years, and that is practically the whole of his work with the exception of a doubtful and hazardous topic like the "History of Intellectual Development" or the "Economic Interpretation of History." The Councils of the University are wise in their generation. They understand rightly that culture is not the primary aim of many students; and they determine that they shall be forced to imbibe as much knowledge as it is possible to impart, a complete bird's-eye view of some great tract of human learning. It is a pity that the student is not also given a real interest in the subject, has no proprietary possession of even an acre or two. Under the new M.A. curriculum he may even be equipped with a "Philosophy of History" for no extra charge! The syllabuses are comprehensive without being educative.

(*e*) The conditions under which the mass of students live and work are not by any means altogether satisfactory (see my answers to questions 17, 18, 19).

(*f*) The absence of a distinct university atmosphere—an absence very palpable to one who comes from Oxford or Cambridge for instance—is a serious loss. In Calcutta, the University is lost in the city. There are any number of rules and regulations, time-tables and curricula, professors and students—but there is no distinctive 'ethos.' There may be certain advantages in this association with a big city, chiefly for scientific and technical studies, and even in literary and philosophical studies, the intimate connection with real life in its

ZACHARIAH, K.—*contd.*

many aspects is a valuable test of theory and a distinct gain in many ways. It is true that an academic atmosphere may produce a crop of "beautiful theories unclouded by a single fact;" but, on the other hand, such an atmosphere is of immense advantage in embodying and preserving a university spirit, in maintaining traditions and in influencing the members of the University profoundly even when no book is read and no word spoken.

(*g*) Finally, in the administration of the University at present, the colleges and the teachers have a comparatively subordinate position. Many colleges are entirely unrepresented; while many members of the Senate have no particular academic qualifications or interests perhaps. It seems to me that the controlling voice in the University should be that of the colleges and the teachers.

To sum up: a man may be a member of the Calcutta University and take his degree without ever having read any books besides his text and lecture notes; without ever having exchanged a word outside the class room with a single teacher; without ever having wasted a single moment on games or exerted himself more violently than by a gentle promenade round College Square Tank; without ever having been infected by any ill-judged enthusiasm for learning; and, worst of all, without ever having belonged to a single club, society, guild or fraternity of any sort whatever, that is, without having had any real interests in which two people could associate. This may be an exaggeration, but how near it is the truth in a good many cases, let others judge.

QUESTION 2.

Do you consider that university training at its best involves—

(*a*) that the students should be placed under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects ;

(*b*) that the teachers and students alike should have access to well-appointed libraries and laboratories ;

(*c*) that there should be a large degree of freedom of teaching and of study ; and

(*d*) that the teachers should have sufficient leisure to be able to pursue independent investigation in their own subjects ?

If you share this view as to the functions of a university, do you consider that the ideal is attained or attainable under the existing system in Bengal ? If you hold that the standard indicated above cannot fairly be applied, please explain your reasons for this conclusion.

ANSWERS.

ABDURRAHMAN, Dr.

The present system of teaching is not vital but mechanical. The teacher is not visible behind the books. Books are dead. The word of a great teacher is full of life and life-giving.

Teaching should, as it is all over the world, be made personal. The professor should not be a vehicle of text-books, but the source of knowledge. This alone will make education life-stuff assimilable by living human nature. There are two causes which prevent it in India. The first is that the professors are required to lecture to classes and not on subjects. The second is that the majority of them are men who cannot even impart, let alone, discover knowledge.

The Indian universities should now grow out of their public school ways and respond to the *Zeitgeist* and the enlarged intellectual vision of the people.

Only such Indian and non-Indian teachers should be selected to fill the professorial offices as have acquired an established reputation for learning and have attained a high standard of eminence and ability. In China and Turkey, where education is being reorganised they do not employ any person as professor unless he is a reputed man of talents of their own country or a person who has been a professor in a foreign university. Again they do not select their teachers from England or France or Germany or any other one country. In China and Turkey professors are men who have taught in the universities of Berlin, London, Geneva, Upsala, Pest and Chicago.

Such professors should deliver lectures which should be open to all the members of the University who are among the students of that subject. There should be no "school-boys' limit" of sixty or hundred students to a professor and division of students into the first, second, third, fourth, and other years. In Germany in every university some ordinary professors have to lecture to classes of four hundred or five hundred students. If the acoustic arrangements of the auditoria are perfect, this causes no inconvenience either to the lecturer or the hearer. Henri Bergson lectures to about a thousand scholars in the *College de France.*

In this way in place of every four or five professors, such as the Calcutta University has now, it is possible to have a celebrated and eminent philosopher, scientist, jurist or scholar.

The work which is now done by the present professors can be left over to the tutors and assistants. They will, wherever necessary, supplement the lectures of the professors with *Praktika* and will actively engage in conversation and discussion with the students.

The professors themselves will also come into intimate and close relation with the students in their seminars. The choice of the ground-work of the lecture may be left to the professor and he may choose a classic on the subject or make use of an original scheme of his own.

AHMAD, KHABIRUDDIN—AHMAD, SAYID ASHRAFUDDIN, NAWABZADA, Khan Bahadur—AHMED, Maulvi KHABIRUDDIN—AHMED, TASLIMUDDIN, Khan Bahadur.

AHMAD, KHABIRUDDIN.

The standard of university training indicated in this question is not attained for the following reasons among others :—

(i) The teachers and the taught do not generally mix freely and consequently the young students fail to imbibe the higher and nobler attributes which alone can make them in after life useful and contented citizens.

(ii) Teachers instead of utilising their spare time in independent research or investigation or in improving their store of knowledge, utilise their time in writing notes for publication or in private tuition.

(iii) Freedom of thinking and teaching are not possible for obvious reasons.

(iv) Indian students require healthy surroundings and guidance in the right direction from those among whom they live and move.

(v) Teaching has been "unduly subordinated to examination."

Bengal wants residential universities at different centres or at least two for the present, *viz.*, one for East Bengal and another for West Bengal. These universities should take upon themselves the responsibilities of turning out genuine literary and scientific scholars and moulding the character of Indian youths. Professors of high attainments would thereby come in contact with the students and thus improve their mental and moral culture. I do not, however, mean that these universities should supplant the existing University. An examining university is also necessary in the interests of those Indian students who are not in a position to bear the cost of residential universities and who are less ambitious. The examining university should also prepare for the various avocations of life.

AHMAD, SAYID ASHRAFUDDIN, NAWABZADA, Khan Bahadur.

(*a*), (*b*), (*c*) and (*d*) Yes.

Under the existing system in Bengal the ideal is not attainable. The area covered under the University is too large and unwieldy. This ideal can be attained only in a smaller area where colleges are situated close to one another so as to afford professors and students opportunities of coming into contact with one another frequently, and working for this realisation of a common ideal in consonance with one another and in a compact body. If the present University be split up into so many different self-contained units and left to work and develope independently with this one all embracing common ideal, then, and then only, can it serve the purpose. If not, I am afraid the ideal aimed at cannot be obtained under the present system.

AHMED, Maulvi KHABIRUDDIN.

I consider that university training at its best involves all the four conditions mentioned in (*a*), (*b*), (*c*) and (*d*).

Under the existing system of university education the ideal is not at all attained, but is attainable by properly organising the colleges and other educational facilities.

AHMED, TASLIMUDDIN, Khan Bahadur.

(*a*), (*b*), (*c*) and (*d*) My answer is in the affirmative.

AHMED, Maulvi TASSADDUQ.

(*a*), (*b*), (*c*) and (*d*) I fully share with the Commission their view as to the functions of a university as set forth. I feel that a university should indelibly leave its stamp on the character of its alumni.

I regret to say that the ideal, as indicated here, is neither attained nor attainable under the existing system. Where a professor has to lecture to a class consisting of a large number of young men, 90 per cent. of whom he knows, perhaps, by face only, what more can we expect than that the students will be clever enough to take down sufficient notes to enable them to pass an examination prior to their entering into some public service? If there is no community of feeling between the teacher and the taught, it is the fault of neither; because under the existing system it is idle to expect anything better than what we get. The age at which our men enter into the University (sixteen is the present minimum) is the most critical in a man's life. At such an age our boys are thrown together, by hundreds, in surroundings which are, in most cases, unfamiliar and perhaps inhospitable, without any proper guidance, without a helping hand, without a sympathetic friend. The teacher can be all this to them, but unfortunately it is physically impossible for the teacher to attend individually to such a large number of boys as are placed under him.

As regards libraries and laboratories, we find that our students make use of them only so far as will enable them to pass the university examinations. In many colleges, again, libraries and laboratories are not so well-equipped as one would wish. The obvious reason for this is want of sufficient funds.

Freedom of teaching and of study cannot possibly be introduced where the whole system is dominated by the terror of examination. The boy knows that he must satisfy his examiner in certain prescribed matters, and the teacher knows that he must coach his boy so that the latter may prove successful at the university examination and thus add to his reputation as a good teacher. I do not mean to condemn examinations wholly as they are one of the best means of testing a boy's acquirements, but feel that a system might be evolved by which, even after satisfying the requirements of an examination we could have sufficient latitude, both in teaching and in study. I have personal knowledge of a case in which a professor never touched the books prescribed for a particular examination, yet he covered the whole syllabus in the course of two years, and himself exercised, and allowed his students to exercise, sufficient freedom in the matter of pursuing the course of studies. The students were none the worse at the final examination for this deviation from the beaten track, while, on the other hand, they learnt many things by themselves, with only occasional advice from the professor. This may be an exceptional case, but I maintain that things will much improve if this freedom were exercised in all educational institutions and opportunities given for it.

The teachers, as I have noted above, are overworked, and so no independent investigation is possible for them. Even where there are the capacity and leisure, there are not sufficient means at hand to carry it on, *e.g.*, libraries and laboratories.

The ideal, as indicated by the Commission, is not attainable under the existing system.

I wish I could at once say that it was quite possible to apply the standard, but there is one drawback and that is a formidable question of money. India is decidedly a poor country, and a university education of the type set forth by the Commission means money—money that we can hardly expect from our middle class men, who form the bulk of the population and, as the backbone of the society, supply the largest number of our university men. Wealth *per capita* here in India is much less than in many European countries, and it is not wise to apply the same standard too rigorously to countries which are widely divergent in many respects and specially where monetary questions are affected. But I am not hopeless. Thirty years back very few of us would think of spending Rs. 30 to Rs. 40 per month for the education of one boy. This we are doing to-day, though perhaps stinting ourselves otherwise. A time will come when, with the growth of individual wealth in our country, men will not find it so difficult to spend more.

AHMED, Maulvi TASSADDUQ—*contd.*—AIYER, Sir P. S. SIVASWAMY—ALI, The Hon'ble Mr. ALTAF.

But this question of raising the cost of education at once shuts out many aspirants to a university education, and this would mean nothing short of a disaster to the community to which I belong. Muhammadans have taken kindly to higher education only recently. Their slowness in taking advantage of the existing educational system has been sought to be explained in many ways and their recapitulation here is useless. The fact, however, lies there that the Mussalmans, who form more than half the population of the province, are backward in the field of higher education. Any attempt to raise suddenly the standard of university education and thus make it more costly, would automatically check the recent progress amongst the Muhammadans. It is not so much from philanthropic motives as from the administrative point of view that it is necessary that the Muhammadans should not be allowed to lag behind. Hence, if the harmonious development of the country be the goal to be aimed at, obstacles should not be put in the way of the Muhammadans fully to equip themselves, now that they have begun to realise their position in the body politic.

Lord Haldane in his address on the 'conduct of life' at Edinburgh University, while speaking of the under-graduate, said "The very degree that he has now begun to work for, will be one of the coins with which he will purchase a position in life. His degree—so he thinks, and it is well that he should think so—will be a certificate of accomplishment which he will be able to wave like a banner in the struggle for life."

Again, according to the same authority, the highest education in the country should be open to the children of the poor as well as of the rich, because, genius is as often found among the humble as among the wealthy, and no nation can afford to neglect the talents of its children.

These remarks apply to all people of all countries and specially to the Muhammadans of Bengal, whose poverty is a by-word in the country.

AIYER, Sir P. S. SIVASWAMY.

(*a*), (*b*) and (*d*) My answer is in the affirmative.

(*c*) The existing regulations of the University provide a large number of options in regard to the subjects of study and in many cases merely prescribe a syllabus and recommend certain text-books. In a federal university, it is not practicable to allow any divergencies in regard to the standard of instruction. The necessity for an external examination must, to some extent, detract from the freedom of the teacher, but under the present circumstances it seems to be unavoidable.

ALI, The Hon'ble Mr. ALTAF.

(*a*) I consider this hardly necessary, nor is such a method practicable when there is such a large number of students. I am basing my opinion on the assumption that there will be no increase in the number of universities in the near future.

(*b*) This is certainly essential. Libraries and laboratories are indispensable to the acquisition of knowledge. I am of opinion that public libraries are not suitable for the student in this country. Every educational institution should be well equipped with an up-to-date library of its own, limited in extent to the particular requirements of the institution.

(*c*) Yes, within the prescribed syllabus.

(*d*) I do not agree. What we want is a teacher able to do justice to his subject. His entire attention should be devoted to the subject he has in hand, especially at that level of it in which his pupils are. I am therefore against giving teachers facility to take research work in hand while he has the students to attend to. A teacher should be a teacher. He should not be a teacher and a student at the same time. I certainly think that the ideal can be attained in Bengal, if only the system be changed to some extent.

ALI, SAIYAD MUHSIN—ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur —ALLEN, Dr. H. N.—ALUM, SAHEBZADAH MAHOMED SULTAN—ANNANDALE, Dr. N.

ALI, SAIYAD MUHSIN.

(*a*), (*b*), (*c*) and (*d*) Yes.

The idea is attainable only in a very few big towns or educational centres. In the mofussil the standard indicated cannot be reached for the following reasons :—

(i) It is very costly.
(ii) The number of men who can, or are willing to, create large endowments is limited.

ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur.

(*a*) and (*b*) These are essential conditions of study.

ALLEN, Dr. H. N.

(*a*) Yes.
(*b*) Yes.
(*c*) Yes, though this is difficult in an examining university.
(*d*) Yes.

I can give no opinion as to the suitability of the Bengal system except by analogy with Bombay. I understand that the number of colleges with small financial resources is even greater in Bengal than in Bombay, and this must make it difficult to maintain the ideal standard.

ALUM, SAHEBZADAH MAHOMED SULTAN.

(*a*), (*b*), (*c*) and (*d*). I am of the same opinion.

ANNANDALE, Dr. N.

(*a*) Yes; but this is clearly impossible with the present number of students.
(*b*) Certainly.
(*c*) I consider it necessary that all students should pass through a well defined course of training before they are allowed to specialise. In advanced work I would allow a large degree of freedom both to professors and to students.
(*d*) Certainly; but the question of leisure is a comparatively unimportant one. Keenness, a sense of proportion, adaptability and original ideas are more necessary. At present college professors have in this country longer periods of enforced leisure than any other body of public servants except judges. Their colleges are closed for two or three months in the year and the holiday thus obtained is not dependent on the exigencies of their work as is leave granted to others. Nevertheless, as a member of the Council of the Asiatic Society of Bengal for the last thirteen years, I have been increasingly impressed by the smallness of the contributions that are being made in India to science, literature or art by college professors. Original investigations into Indian languages, philosophy, biology and ethnology are being made, rarely by members of the Educational Service, more often by High Court Judges, members of the Civil Service and especially by members of the technical and scientific departments of Government. There is nothing in this country at all comparable to the spirit of research innate in the English and Scotch universities, unless it be in the non-teaching technical and scientific departments, and the position is rendered still more unfortunate by the fact that in those cases in which research is fostered in university circles there is a regrettable tendency to a premature elaboration

ANNANDALE, Dr. N.—*contd.*—ARCHBOLD, W. A. J.

of results. In this respect I would like to quote the words of Sir Alfred Bourne, Principal of the Indian Institute of Science at Bangalore. In his presidential address at the last meeting of the Indian Science Congress he says:—

"Research is now alluded to as a perfectly simple operation, one even hears of men being 'taught to research'; newspapers speak of it in the lightest manner, whereas, in even my student days, it was spoken of with almost bated breath as indicating something to which only the best of us could look forward, something which few of us were ever likely to carry on with any hope of success. How well I remember my own first piece of original work and the months I spent in trying to ascertain the structure of an organ little more than just visible to the naked eye and the excitement of trying to unravel its extreme complexity. My impression is that the term was at that time used almost entirely in connection with pure science, but even in this respect it is now quite a common thing for a candidate for a higher degree in science to be expected to present a thesis based upon some original research, and there is a professor in this country who, so I have been told, expects and helps each of his students to 'turn out a research,' to use a now common expression, every month. This may or may not be true. If true, it bespeaks considerable energy; how far it makes for progress, authorities in the subject alone can say—at any rate it may serve as an example of how things have changed."

My own view is that spoon-fed investigations rarely have much value. At the same time the position of the university professor as a guiding and restraining influence is of the greatest importance. I consider it essential, therefore, that the professorate in a university should consist of men on the one hand capable of recognising and encouraging the research spirit (which is probably impossible unless they partake of it in some measure themselves and are therefore engaged in original investigations) and at the same time fitted to guide and if necessary restrain unbalanced enthusiasm, as the enthusiasm of youth is apt to be. It is necessary that the professors should have leisure for their own work, but leisure is useless to them, or to their students, unless they have it in them to adapt themselves to Indian conditions without losing hold of the work in hand. This seems to be equally difficult for Indians and for Europeans. The Indians have to adopt an attitude towards natural phenomena, etc., that is very largely alien to India; the Europeans have to work in conditions depressing to them both physically and mentally.

A university has no right to call itself a university unless the ideal set-forth in this question is attainable in it. I do not think that it is attained at present in Calcutta. If it is to be attained the number of students must be reduced. The rest is in the hands of the professors and of those set over them. The question is not one of new organisation or reorganisation but of common sense and of due appreciation of research.

ARCHBOLD, W. A. J.

University training on its academic side is well summarised in these four paragraphs, though there are other aspects perhaps equally important which are not mentioned. I refer to such matters as the organisation of college life and recreation and to the influence of teachers outside the lecture room.

(*a*) How can we talk of "personal guidance" when the University allows 150 or even 250 in a class and when it sanctions the relay system?

(*b*) Everything is a question of degree, but as there is, I believe, not a single great library in India and as there are very few good ones there is much room for improvement here. The preservation of books in the plains is however a matter of great difficulty. Laboratories are on a different footing. There are many good ones and the standard in regard to them is high.

ARCHBOLD, W. A. J.—*contd.*—Association of University Women in India, Calcutta Branch.

(*c*) There is no freedom to teach, still less freedom to study in India until the research stage is reached. With the large numbers great difficulties present themselves.

(*d*) There is a great mass of routine work to be done, and the better it is done the less time the teachers will have to themselves. I think in the Dacca College every professor could find time in vacation, if not during the terms for original work, and a good many do undertake various kinds of research.

Association of University Women in India, Calcutta Branch.

(*a*) We consider it most important that students should be placed under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects.

In too many instances the teacher has no personal relationship to his students; and it is well known that with the Indian temperament the personal equation stands for every thing.

Moreover, school education being generally what it is, the only chance of retaking earlier mistakes is that of personal contact with the right kind of man, later on.

The enthusiasm of a lecturer for his subject would be one way of counteracting the evils alluded to in our answer to question 1.

(*b*) Yes. It is within our knowledge that women candidates have been presented, *e.g.*, for a degree in astronomy, without having once entered an observatory or seen a telescope.

We would like to point out that the provision made in regard to libraries and laboratories generally is most inadequate.

In regard to libraries we think—

(i) That all students should have greater freedom of access to libraries, and should be encouraged to read outside their text-books.

(ii) Students for the fourth year pass, and honours students generally, should be allowed not only to read books in the library, but to borrow them.

(iii) For post-graduate students access to libraries should be made particularly easy, not only in regard to books but also in regard to periodicals.

(*c*) We consider that greater freedom should be allowed the teacher, both in regard to the manner of teaching adopted, and to the text-books used.

We do not consider the present under-graduate is sufficiently educated to be allowed greater freedom of study (if by that term is meant choice of subjects for his degree: and of methods of preparation). We would control matters even as they stand. The present undergraduate is apt to base his choice on such considerations as—

(i) The chances of a pass;

(ii) The multiplicity of cram books;

(iii) The possibility of any particular annotator of prescribed books being appointed examiner.

(*d*) We consider that teachers should have sufficient leisure to keep in touch with the development of thought in their particular subjects. But we think that the following differences between England and India should be borne in mind:—

(i) The teacher has to do more for his students in Indian colleges than in colleges in England.

(ii) This makes college fellowships in the ordinary sense, *i.e.*, an opportunity for further research,—impossible in India. Teaching and research cannot, in our opinion, be combined in India.

Association of University Women in India, Calcutta Branch—*contd.*—AZIZ, Maulvi ABDUL—BAGCHI, Dr. HARIDAS—BANERJEA, HARIPROSANNA.

(iii) We would nevertheless encourage the foundation of research fellowships, but would attach to them only one short course of lectures which would gather up the result of the work in research done by the fellow during his tenure of office.

The answers to individual questions above have in part answered the subjoined note. We consider that the functions of a university should involve what has been indicated above. We do not consider that the ideal has been attained in Bengal. We think that it is not attainable under the existing system, for reasons indicated in our replies to the sub-sections of this question.

AZIZ, Maulvi ABDUL.

(*a*), (*b*), (*c*) and (*d*) Yes. University training should involve all these.

This ideal is not attained under the present system. A federal university which has so many colleges cannot make provision for (*a*), (*b*), (*c*) and (*d*) which may be financially practicable.

The only solution lies in the establishment of residential and teaching universities, with men of high literary fame, character and piety.

BAGCHI, Dr. HARIDAS.

(*a*), (*b*), (*c*) and (*d*) Yes, I consider that university training at its best involves the special features mentioned.

Since the introduction of the new regulations, the Calcutta University seems to hold this ideal in view, and to strive for its realisation day by day. Although the ideal has not yet been reached, it is satisfactory to note that the University is gradually progressing towards it. As a matter of fact, teachers and students are permitted free use of the university library, which is being well-stocked with valuable books and original memoirs, and also of the physical and chemical laboratories of the University Science College. I mean no reflection on the private college authorities when I say that their funds do not allow them to give adequate remuneration to their professors. As a result, the underpaid teachers often seek to supplement their income by private tuition work, and are therefore not in a position to devote their undivided attention to research work. As a means of remedy, I would suggest that the funds of the private colleges should be enriched either by Government grants or by public donations or by both, so as to attract capable teachers who can possibly devote their lives to the further investigation of their respective subjects.

BANERJEA, HARIPROSANNA.

The functions of the University should be as laid down. But even in the European and American universities, professors of first-rate ability and recognised standing are not so numerous that all the students in all the subjects can be placed under their personal guidance. Even in such a rich and such an old seat of learning as Cambridge University professedly is, noted as it is for the high standard of mathematical culture, all the lecturers are not of first-rate ability and of recognised standing in their subjects (*vide Report on the present state*, etc., by Dr. Ganesh Prasad, *Appendix F*). And in a poor country like Bengal, it is especially so, "where knowledge is to be acquired through the medium of a difficult foreign tongue" and where the renaissance of intellectual development is just dawning. "The wonder is that there is as much."

Educational service in Bengal can be divided into three distinct groups, the University service, Government service, and service in the private institutions. In the University service almost all the university lecturers are first class M.A's, or M.Sc's, who are either gold or silver medalists. Some of them have distinguished themselves as original investigators, some have obtained the doctor's degree, whilst others are the recipients of the

BANERJEA, HARIPROSANNA—*contd.*—BANERJEA, J. R.

Premchand Roychand Studentship, the highest distinction (before 1909, in which year the doctor's degree was for the first time instituted) of the Calcutta University. In the Government service again, there are three distinct classes, the Indian Educational Service,* the Provincial Educational Service and the Subordinate Service. The average qualification of an Indian Educational Service officer at present is, as has been previously said, a third class degree of Oxford or Cambridge, the average qualification of the Provincial Educational Service officers being much below those of the university lecturers. The professors in the private colleges have the same qualifications as the Provincial Educational Service officers. Thus we see that the lecturers of the Calcutta University are of the best material available in Bengal as well as in India.

The university library is only in the forming. Books have to be bought here and are not presented to the library. It is not therefore as well-equipped as is necessary. Hence special access should be given to students so that they may avail themselves of the other existing libraries such as the Presidency College library, the Asiatic Society's library and the Imperial library.

The books prescribed or recommended being in English, the students have no means of correcting or supplementing their professors' spoken words, because these books are almost always written for a particular class of students in England or in America and are therefore wholly unsuited for Indian students. The late Professor H. P. Farrell, speaking on this point, aptly remarks (*Indian Review*, Vol. XVIII, No. 12, page 81):

"A friend whose work is the teaching of biology informs me that he used to meet with considerable difficulty because the text-books prescribed or recommended, and the details of the syllabus, all had in view animals, as they are found in Europe or European waters, ignoring Indian conditions entirely."

The same remark applies to the other subjects as well. Speaking for my own subject I can say that even in such a cosmopolitan subject as mathematics, the same difficulty is encountered. The new method of lecturing on the courses of syllabus prepared by the lecturers themselves may prove of great value.

The new scheme has made it possible for graduate and under-graduate students of a college to come together by allowing those who undertake post-graduate studies to retain "their names on the rolls of their college, to reside in the college hostel or attached mess, enjoy the benefit of the college library, laboratory and other like institutions, and receive assistance in their studies from the college staff" (*vide* Chapter XI, Section 34, regulations, Calcutta University). Thus the under-graduate students will be "stimulated and encouraged by the familiar presence of an attainable ideal" (*vide* The Essentials of a University, etc., page ii).

Further, teachers of original thought, being now relieved of an important part of their post-graduate work, can direct their attention towards the undergraduates from the beginning of their university career and "obtain the double advantage of selecting the best men for research and obtaining the best work out of them" (*vide* The Essentials of a University, etc., page 10).

BANERJEA, J. R.

(*a*), (*b*), (*c*) and (*d*). In my opinion, university training, at its best involves all these. But this ideal has neither been attained nor is attainable under the existing system in Bengal. The standard indicated cannot fairly be applied, considering that we have a very large demand for education in Bengal to meet and if we rigidly insist on the

* "The arrangement which divides the staff of a college into two services, I. E. S. and P. E. S. has generated in the mind of many an educated Indian a sense of real grievance." "The inevitable effect is that almost every European professor, when he first enters upon the discharge of his duties, starts at an obvious disadvantage and with a certain amount of prejudice against him: he is regarded by the students as a member of an unjustly favoured class." (3rd April, 1916.)

Sir Asutosh Mukherjee.
W. W. Hornell.
Rev. J. Mitchell.
H. C. Maitra.
C. W. Peake.

conditions laid down in (*a*), (*b*), (*c*) and (*d*), many colleges will have to be closed for want of funds which are absolutely necessary for attaining the ideal set forth. The result of this will be that many young men will be left without higher education and the results of this will be most deplorable to the country. Under the existing system students are being fairly well educated, in some cases brilliant students are being trained. It may be noted here that if (*a*) is insisted on rigidly, there may be a tendency on the part of some to make too much of the tutorial system contemplated in (*a*) which will impair independent powers of thought and action and cause a continuance of the school system in college and university life.

BANERJEA, Dr. PRAMATHANATH.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is very imperfectly attained at present in Bengal. This, however, is due not so much to the defective system which prevails here as to the insufficiency of the resources in men and money which have so far been available. The ideal is attainable even without a radical change of the existing system, if large funds are placed at the disposal of the University. In order to attract the best men to the teaching profession, handsome salaries should be offered. Great care should also be taken in selecting the teachers, who should not only be men of first-rate ability and of recognised standing in their own subjects, but who should possess sympathy in an abundant degree so that they may be able to inspire the students with an enthusiasm for knowledge and guide the development of their intellectual and moral faculties along healthy lines. It is a regrettable fact that the majority of European professors in Bengal are not only not men of first-rate ability and of recognised standing in their own subjects, but are very cold and unsympathetic in their behaviour towards the students. The attempt to place students under the personal guidance of such professors would be productive of more harm than good. Indian professors, on the other hand, as a rule, take an interest in the students, but their many exacting duties, educational and other, do not leave them much surplus of time and energy to devote to work tending to the welfare of the students.

I wish to make it clear that while the high ideal ought always to be kept before our eyes, and every effort should be made to attain it, no steps should be taken which might tend to check the spread of education or restrict its scope in any way. India is a poor country, and education is already expensive for even the comparatively well-to-do classes of the population: it would be disastrous if it were made expensive.

BANERJEA, SURENDRA NATH.

(*a*) It is unquestionably more advantageous to place our students under the direct guidance and influence of teachers of exceptional ability. University teaching, as is at present available here, leaves no occasion, on the part of a teacher, for exercising any influence, either moral or spiritual, over the pupils placed under his charge. The relation which exists at present is most superficial and artificial. The whole of the week is taken up for lecture work and the only occasion, when the pupil can come in personal touch with his professor or teacher, is when he comes in groups of 15 or 20 in the tutorial or the practical classes.

In order to establish a closer connection between the teacher and the taught, there might be introduced a system like this. Saturday or another day of the week ought to be dedicated for social gatherings, and no lecture work should be permitted. For this purpose and for a permanent result, the total number of students in any college should be divided into as many groups as there are members of the staff and under each tutor one of those groups should be placed. Each group again should be placed under two monitors elected from the senior classes and there ought to be a secretary nominated for each.

group. These monitors would then be responsible for the good behaviour of each member of the group and would also be able to look to the wants and needs of each group and should act as an intermediary between each group and the tutor. On such days of the week, regular meetings of the groups will be held in the college classes under the presidency of the several tutors and suitable essays or discourses will be read and criticised by the members. The monotony of the meetings could be varied by suitable devices, which might be left to the ingenuity of individual tutors. In this way, much interesting and up-to-date knowledge might be imparted and in a pleasant manner and the youths will learn the duties and responsibilities of a good citizen, if a little care be taken in that direction by the tutors and monitors. In order to keep up a lively interest and make it impressive, a general gathering, at least thrice during the academic session, of all the groups under their tutors and monitors should be arranged, with the principal of the college in the chair. Select lantern slides bearing on astronomy, bacteriology, hygiene and other suitable subjects might be exhibited for the benefit of all, as well as lectures on an impressive subject delivered.

Nor should we stop there. To make the university students, professors and fellows *feel* the reality of a corporate life of a great university and take pride in belonging to it, as well as to give a hearty reception to the new graduates of the year, a monster "at home" gathering should be arranged soon after the convocation of the University every year. A large and suitable open space should be selected—the Maidan is a very convenient and desirable place—and tents should be erected where light refreshments and diverse amusements should be provided under the auspices of the Vice-Chancellor of the University or some other high official who might be available. The professors, senators and students of the University—all should heartily co-operate in order that the object of this annual gathering might be fully attained. The cost of this affair might be met partly by equitable contributions from the several colleges under the University and partly from the funds of the University.

A word of explanation may not be out of place here with reference to the phrase "teachers of first-rate ability." Are we to understand by this that each college has to secure the services of teachers of first-rate ability? If we were to accept such a proposition, shall we be prepared to meet the cost of such upkeep? On the other hand, if by this phrase we are to understand raw university men who have left their *Alma Mater* after receiving the highest academic distinctions, then I would point out that for the purpose of mere tuition-work of the classes from day to day, a sound experience in the art of teaching, enthusiasm for the work, nobility of character and a real capacity to make his own particular subject thoroughly understood by his pupils in the class,—these essentials in a teacher should be given preference to mere academic distinctions. It is a matter of every day experience how often do such raw professors meet with failure, being unable to control a large class either through a flourish of their pedantry or through their inability to realise the special difficulties from the students' point of view or through some peculiar mannerism of theirs which can be cured only by experience. Much of the deterioration noticeable among the students might be traced to the pernicious system, now in vogue, of appointing immature youths to the chairs in our colleges.

The problem of allowing a freer intercourse between the teacher and the taught is not, however, quite so simple. There often arise cases where too much familiarity might breed contempt and be the cause of lax discipline. The task is at once a difficult and delicate one and only teachers with a high moral and spiritual character and with a sense of dignity and proportion and familiar with the workings of the human heart can grapple with difficult situations when they arise.

(*b*) Well-appointed libraries and laboratories, giving free access both to the teacher and the taught under suitable conditions to safeguard loss or damage, would go a long way to foster a true spirit of learning and minimise the risk of cramming. But this arrangement is likely to benefit the brighter intellects among our university students and also those who have acquired a greater thirst for knowledge.

BANERJEA, SURENDRA NATH—*contd.*

(*c*) If the proposals under (*a*) and (*b*) are actually carried out, then there ought to be a large degree of freedom of teaching and of study; but as pointed out under 2 (*b*) freedom of study should be allowed to the brilliant students of the University; otherwise, random study is more likely to lead to confusion of ideas amongst the students of average merit. The more able and experienced a teacher is, the more will he require a much greater latitude in teaching his subject and in such cases it will be certainly more advantageous for both.

(*d*) It is desirable that the university professors (and especially those who are actually engaged in any research work) should be allowed sufficient leisure to pursue independent investigation in their own subject. Such professors should not be burdened with the duty of delivering more than one lecture daily. Those, who are entrusted with the teaching work, should not exceed the present limit of 18 periods of work per week. But this should be considered a maximum and the efficiency of a teacher is likely to be improved by reducing this to a limit of 14 periods per week, at least in the case of those in charge of science subjects.

I have already tried to explain how it is possible to attain the ideal of a corporate university life even in Bengal (rather let us say in Calcutta), but there is another sore point to which the attention of the Commission is most earnestly invited.

The salaries obtained by teachers and professors of institutions under private management compare most unfavourably with those offered by the Education Department. There may not be a very great difference at the start, but after 10 or 15 years of service a person holding a post under Government has a status quite unattainable by the other. Apart from the question of difference of income, the man, under private management, lives in utter misery, without prospects, without hopes of ameliorating his conditions unless by a lucky chance elsewhere or only through obsequiousness, and has neither a pension nor a provident fund to fall back upon in his infirmity. Nor is this all. No matter how capable he might have proved himself in the past, nor how experienced he might have been during his continued service for years, his position or security in any particular institution will always be uncertain and any fine morning he may wake up and be served with a notice of discharge from his employers on some pretext or other. Nothing can be more galling, nor more degrading to the teacher's profession than this state of things, and yet the aggrieved party may not hope to get any redress at the hands of the university authorities.

There should exist a substantial control of the University over these so-called "private" institutions in the matter of dismissal of members of the staff and official auditors should have authority to examine the actual accounts of such institutions periodically. Often when the time for promotion comes, the surplus revenues of such institutions are spirited away by some wonderful manipulation and the feeling of the poor and dumb workers, through whose hard labour the surplus came to pass, can easily be imagined.

If these evils be not stopped and if the status of all institutions under "private" management as well as that of their staff be not raised and brought up to at least the Government standard, it would be indeed a cruel joke to talk of efficiency and of enlisting the services of men of first-rate ability and of inaugurating an era of ideal university training.

Another important question requires immediate solution. What callings and professions are thrown open to the men who come out successful from the University every year? Unfortunately this problem can only be satisfactorily solved by the Government and not by a layman. At present the largest number of graduates seek admittance into the profession of law, then comes the teacher's line, then the medical profession and only a few try for the engineering department. Those, who are more fortunate and can secure patronage, enter the various departments under Government, but for obvious reasons their number must be exceedingly limited.

Yet if it be desirable to extend the influence of university training and not to restrict it by artificial means, then the Government must find out new lines of activity and of new sources of income for the ever increasing university population. In India, the problem of education must be subservient to the life problem for years to come.

BANERJEE, GAURANGANATH.

(*a*) Undoubtedly, university training at its best involves the system of placing the students under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects. But to carry out this scheme in practice, the class should be of a manageable size and there ought to be a selection of students. I think also that this scheme should be confined to the post-graduate courses of study. Students, who have graduated in honours, should be admitted first and then those pass-candidates who have secured 50 per cent. at least of the total number of marks in that subject, should be taken in.

(*b*) The teachers and students alike should have access to well-appointed libraries and laboratories. But to keep the libraries of Calcutta on a workable basis, they first of all should be amalgamated and organised and then they ought to be re-arranged into subject-libraries, located in separate buildings or at least in different blocks of the same building. The students should work in the library under the guidance and supervision of the teachers; and a register should be placed there, where each student would be required to record his daily work. The teacher should periodically inspect the work and enter remarks in the said register.

(*c*) There should necessarily be a large degree of freedom of teaching and of study. The fullest freedom should be given to variety and the individuality of a teacher: no teacher should be checked or controlled.

(*d*) The teachers should have sufficient leisure to be able to pursue independent investigations in their own subjects.

This ideal has not been attained, but certainly is attainable under a slightly modified system.

BANERJEE, Sir GOOROO DASS.

I certainly 'consider that university training at its best involves':—

(*a*) That the students should be placed under the personal guidance of teachers of first-rate ability in their subjects; but they need not always be of recognised standing, which, besides being a guarantee of experience, is only evidence of ability, and the want of which may be made up by real ability, if otherwise proved; and the help of such teachers should be invoked more to serve as guides and examples to students than to act as tutors to coach them for their examinations.

(*b*) That the teachers and students should alike have access to well-appointed libraries and laboratories, but I should add that in a poor country like this, they should not be made unnecessarily costly. An ordinary college library should not, like an imperial library, aim at having all books on a subject, good, bad, and indifferent, but should be content with having only the best books. Moreover, students should be taught early how to make legitimate use of a library, which is to know the extent of the world's already acquired stock of knowledge in any subject, for the purpose of informing one's own mind and of disseminating that knowledge to others, and for the purpose of proceeding further in quest of knowledge in that subject so as to add to the world's stock of knowledge; but not for the purpose of making a pedantic display of learning dug out of rare books, nor for the still worse purpose of passing as products of original research, things that are only products of diligent search among obscure books, not generally known.

(*c*) That there should be a reasonable degree of freedom of teaching and of study, but not a large degree of freedom, which may degenerate into an indolent habit of avoiding the teaching and learning of those portions of prescribed courses which are difficult or toilsome.

BANERJEE, Sir GOOROO DASS—*contd.*—BANERJEE, JAYGOPAL.

(*d*) That the teachers should have sufficient (but not profuse) leisure to be able to pursue independent investigation in their own subjects, but so as not to neglect the teaching work entrusted to them.

I have said above that I share the views as to the functions of a university implied in the different heads of the question, subject to the limitations and qualifications indicated in my answer; and subject to those limitations and qualifications, I do not see why the ideal should be considered unattainable under the existing system in Bengal, and why the standard indicated above cannot be fairly applied.

We can, by economising our means, have teachers of first-rate ability, if not of recognised high standing, in many, if not in all, subjects: we can have useful, though not splendid, libraries and laboratories: we can have a fair degree of freedom of teaching and study: and we can give our teachers sufficient, though not profuse, leisure to carry on research.

I do not, for one moment, say that the existing system needs no improvement. But I think it would be unpardonable ingratitude in the people of the country who have been benefited by the University in the past, and it would be unjust pessimism in our outside critics who have to guide its destinies in the future, to pronounce a wholesale condemnation of it. Not unlike the individual human body, the body corporate, the University, has in its earlier days grown and grown well physically in size, and served the useful and necessary purpose of disseminating knowledge, if not of a high standard, and it is now earnestly looking forward to elevate that standard and to add to the stock of the world's knowledge. Changing the figure, this University has hitherto been broadening its base, so that the temple of learning may rise high safely on that broad basis, like a stately pyramid, and not like a slender, though lofty, obelisk on a narrow base.

None regrets the scantiness of products of our University more than I do. But speaking with all humility and self-restraint, one may be pardoned for saying that few as those products have been, they are not altogether discouraging. And with a little more encouragement and judicious distribution of emoluments, we may, by preventing the learned and lucrative professions from drawing away our good graduates, help the progress of literary and scientific culture to a desirable extent. I need not cite instances; but there is one member of the University Commission, who will well understand my meaning, and will be able to explain it to his colleagues. If, on the one hand, we are not satisfied that a high ideal has been attained, on the other hand we need not despair that it is attainable.

BANERJEE, JAYGOPAL.

(*a*), (*b*), (*c*) and (*d*) My answer is in the affirmative.

The ideal suggested by them has not yet been fully attained, but the existing system with a little modification indicated below is, however, calculated to make that ideal realisable, provided the pace of progress towards the goal is not slackened by a new policy or by financial difficulties.

(*a*) I would make a distinction between the students in the B.A. and M.A. stages and the under-graduates (in our Intermediate classes). The latter stand in need of greater help and guidance, and more extensive arrangements for real tutorial help to each individual student according to his particular needs must immediately be made if any substantial improvement is to be effected in the existing system.

Seminars should be organised in all colleges for the benefit of M.A. students and, possibly, of B.A. honours men as well, to be conducted by other than junior professors, except when such professors have actually proved by their work their title to this responsible work.

(*b*) At present our students suffer a good deal from want of proper facilities in this regard and there is considerable room for improvement. "Study circles" to facilitate application of the co-operative principle in education, reading and recitation "groups," and week-end conferences may also be introduced as supplementary educational agencies.

(*c*) Teachers capable of taking the initiative and unwilling to rest contented with a stereotyped mechanical system of merely giving "instruction" in the lecture room are seriously handicapped in their work owing to the fixing of a definite number of lectures, the adoption (except in the case of intermediate students where text-books should as now form the basis) of the idea of guiding studies by means of prescribed text-books instead of a carefully prepared syllabus and the enforcement of a compulsory percentage of attendance for all students especially in the B.A. honours and M.A. classes where this rigid rule should be modified, if not supplanted, by a more elastic system, leaving to the professors concerned adequate freedom in controlling the students and regulating their studies by means, say, of a "record of work" throughout the entire period of a two years' course based on tutorial work and seminar work supplemented, when necessary, by periodical tests.

If a percentage of attendance with all its disadvantages is considered necessary to ensure regular work it should at least be reduced from 75 to 60 for B.A. and 50 for M.A. students.

(*d*) This privilege is certainly a *sine quâ non* of good quality of work at any rate in the case of teachers engaged in B.A. honours and M.A. work. If there is any truth or force in the oft-repeated allegation of quality being sacrificed to quantity that evil, where it exists, can hardly be remedied except by making the conditions favourable to teachers in charge of higher subjects. As a safeguard against the possibility of abuse a provision may be made requiring such teachers to justify their claims to it by the production of tangible results within five to seven years from the date of their appointment.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal cannot be attained unless the problem of numbers is solved and more efficient colleges started in each district, and a very large number of teachers of first-rate ability appointed at least one in each faculty in each college.

BANERJEE, M. N.

(*a*) Yes.

(*b*) Yes.

(*c*) Yes, consistent with a standard to be fixed by a central authority.

(*d*) Yes.

Teachers of first-rate ability cannot be obtained so long as the present system of Government service continues. If a professor of chemistry becomes the Director of Public Instruction, or a chemical examiner with the Government of Bengal can at any moment be made a medical store-keeper, or a professor of surgery can be turned into a professor of medicine about the termination of his service, it is hopeless to expect teachers of first-rate ability and recognised standing in their subjects. Well-appointed libraries and laboratories are very few for want of financial resources. Contributions from Government should be on a more liberal scale and public charity should be stimulated.

BANERJEE, MURALY DHAR.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal of university training is not attainable in Bengal under the existing system, because the system itself is defective and requires radical changes which can be effected only by liberal endowments and grants. (See my answers to questions 16 and 18.)

BANERJEE, RAVANESWAR—BANERJEE, SASI SEKHAR—BANERJEE, SUDHANSUKUMAR.

BANERJEE, RAVANESWAR.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal cannot be attained under the existing system because:—

(i) The number of teachers of first-rate ability is far less than what is absolutely necessary.

(ii) The number of students is much more than can be managed.

(iii) There are very few well-equipped libraries and laboratories.

BANERJEE, SASI SEKHAR.

Yes. I share the view contemplated in the question and I am of opinion that the deal is attainable under the existing system in Bengal.

As regards (*a*), I have already said that such a state of things is practicable with regard to the B.A. honours and post-graduate studies.

(*b*), (*c*), and (*d*). Yes. I do not think that under the existing conditions it is practicable or desirable that teachers in charge of the intermediate and the B.A. or B.Sc. pass stages should devote much time to independent research. Here, too much specialisation is not the aim, and teachers will be more useful than independent reseach workers.

BANERJEE, SUDHANSUKUMAR.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal is not attained but is attainable under the existing system in Bengal, provided arrangements be made:—

(i) To increase the prospects of the teachers so as to attract men of first-rate ability to this profession and the invidious distinction between the Indian Educational Service mostly occupied by the Europeans and the Provincial Educational Service entirely occupied by the Indians be done away with.

(ii) To establish residential system where this is wanting.

(iii) To build up well-equipped libraries and laboratories in all educational institutions where such libraries and laboratories do not exist already.

(iv) To increase the number of teachers in institutions where they are overworked so as to leave them sufficient leisure to pursue their independent investigations.

(v) To grant the University an autonomous form of Government and a voice in the formation of the provincial budget.

As regards freedom of teaching and of study, it can be remarked here that under the existing system students are allowed a considerable amount of choice in the selection of the courses of their study and the teachers can also enjoy a considerable amount of freedom provided they be permitted to select their own text-books and frame the courses of their lectures in their own way. So far as the university M. A. and M.Sc. examinations are concerned, the syllabus has rather been kept vague and ill-defined in the existing system so as to leave the maximum amount of freedom to the teachers and the students alike in the design of their courses, although the attainment of a very high standard of knowledge is insisted on by the University for these examinations which include the study of original papers and a thorough knowledge of all up-to-date discoveries. It may also be remarked here that the honours examinations for the Bachelor's degree of the university is in no way inferior to Part I of the Cambridge Tripos whilst the examinations for the Master's degree is considerably superior to Part II of the Tripos.

BANERJEE, UPENDRA NATH—BANERJI, MANMATHANATH—BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

BANERJEE, UPENDRA NATH.

It is a matter for deep regret that not only in schools but also in colleges the moral culture of boys should be so much neglected. Along with the selection of ordinary text-books, there ought to be an appropriate selection of proper text-books dealing with the noblest examples of golden deeds to impress the minds of students at the most critical period of their lives. Examinations should be regularly held in these subjects and prizes given accordingly.

Practical examples shown by the teachers to the students are most likely to carry conviction with them. Example is better than precept, and the examples thus set by their superiors can never fail to produce their desired effect and to improve them in their morals. I cannot fail to notice here the indifference of some guardians in this respect. Those who are particularly careful, never find any cause to repent. Proper encouragement should be given to the teachers sufficiently able to prove marked progress in the conduct of their boys, keeping a strict eye on their conduct at home, exemplary punishment being given to boys guilty of gross misconduct. Teachers must have authority to exercise their discretion in the infliction of punishment and should on no account be compelled to refer to the headmasters every instance of misconduct on the part of the boys. Conduct prizes ought to be given to deserving students in all schools and colleges. Benevolence in word and deed, beneficence, honesty and other virtues, such as truthfulness, charity, sincerity, disinterestedness, devotion to duty, moral courage, liberty of thought and speech, habits of industry, patience and perseverance ought to be practised along with loyalty and patriotism even from boyhood.

BANERJI, MANMATHANATH.

(*a*) (*b*) (*c*) and (*d*). The answer to the above is in the affirmative. The conditions mentioned in (*a*) and (*b*) are attainable under the existing system in the post-graduate stage and will possibly be attained in due course. As regards first-rate men it is worth while remarking that their number is small in this country, as elsewhere. There may be more capable men in foreign universities, but I do not think that most of the graduates of foreign universities are really capable men. We have turned out men who are on the average not at all inferior to average graduates of foreign universities. I am, therefore, of opinion that an endeavour should be made to enlist men of recognised ability and of approved teaching experience—in short, the best men available in India.

(*c*) The reply is that there should be a large degree of freedom of study, but the prescribed course of the University should be completed.

(*d*) The principle involved is of considerable importance and something must be done to give the teachers scope for study. This condition may be exacted from the teachers. As regards research or independent investigation, I am of opinion that special exemption from much routine work may be granted to those only who really possess enthusiasm and capacity for independent investigation. Experience shows that there is a distinction between a capacity for research and high scholarship and I think no benefit can be gained by making independent investigation or research a necessary qualification for teaching work. There are instances of very eminent scholars doing no research work at all; on the other hand, men with lesser qualifications and learning may become themselves famous in these directions. I have no faith in "forcible research" or in "researches made to order."

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

I fully agree that the students should be placed under the tuition of teachers of first-rate ability and of recognised standing in the subjects taught by them. This unfortunately has not been the case in recent years and the professors who come out from England are often third-rate men.

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN—*contd.*—BANERJI, UMACHARAN.

I also agree that teachers and students should have access to well-appointed libraries and laboratories—and that teachers should have sufficient leisure to be able to do research work.

These ideals cannot be attained under the existing system, mainly in consequence of the large number of small colleges scattered over the country being affiliated to the universities. This difficulty is not confined to Bengal alone but exists in almost all the Indian universities and arises chiefly from the fact that the financial position of these colleges is not satisfactory. The defect may, to a great extent, be remedied by the establishment of smaller teaching universities at different centres, well-equipped with all modern appliances and a sufficient staff of well qualified teachers who would take an interest in and have sympathy for their pupils. In the University of Allahabad efforts are made in this direction by requiring that colleges which seek affiliation should have a sufficient number of qualified and well paid teachers, proper libraries and laboratories, suitable hostels and sufficient funds.

BANERJI, UMACHARAN.

(*a*), (*b*), (*c*) and (*d*). I do consider that university training at its best involves the fulfilment of the conditions stated.

I do consider that the ideal set forth is not fully attained or attainable under the existing system in Bengal.

(*a*) To secure the services of teachers of first-rate ability and of recognised standing in their subjects would necessitate the payment of emoluments which neither the Government nor the University authorities nor the proprietors of first-grade colleges are in a position or willing to pay. In the ancient Indian universities, such as those at Taxila, Nâlanda, and Vikramsila, teachers of first-rate ability were employed, but they received no remuneration for their work. In the very ancient Indian Universities of the Epic age such as the one maintained by Vasistha in the age of King Rama, and the other of Sounaka in the age of King Janamejaya, the same principle was no doubt followed, but detailed accounts of these universities cannot be gathered from the records now accessible to us.

(*b*) The maintenance of libraries and laboratories —an essential feature of university training —depends upon the financial help which the authorities are in a position to afford. In Calcutta, at the University, in the Presidency College, in the Dacca and Patna Colleges, a great improvement has been effected during the last decade on account of the liberal grants by Government, but there is room for further improvement, of which the authorities are fully conscious.

(*c*) There is not much freedom of teaching and of study on account of the rigid requirements of the university examinations; but under the existing regulations of the University, there is some provision in a few subjects of study for a wise selection of books, and sometimes syllabuses are prescribed instead of books. This has been a step in the right direction, but there should be a further advance. In the ancient Hindu universities, these conditions were amply fulfilled, particularly at Taxila, Nâlanda and Vikramsila.

(*d*) The professors and lecturers engaged in 1st grade colleges have too much routine work to enable them to devote sufficient time to independent investigation in their respective subjects. In the University post-graduate classes, however, substantial improvement has of late been effected—thanks to the organising genius, ripe and mature judgment, indefatigable industry and vast erudition of Hon'ble Sir Asutosh Mukherji. Further improvement can be made provided sufficient funds be forthcoming.

N. B.—The University of Salerno in Italy, generally considered to be the earliest university of Europe, came into being in the 9th century; but the institution was rather a *studium generale* than a regular University. The Universities of Oxford, Cambridge, Paris and Bologna, all of which sprang into existence in the 12th century were more or less guilds of students or masters at the time. Taxila University flourished from 600 B.C. to the beginning of the Christian era; Nâlanda University, from 4th to 9th century A.D. (if not longer) and a Vikramsila University, from 8th to 12th century A D. The Universities of Vasistha and Sounaka flourished at least before 1400 B.C.

BARDALOI, N. C.

(*a*), (*b*), (*c*) and (*d*). Yes.

I say the ideal is not attainable anywhere in India so long as there is no definite aim. Boys must pass the B.A. examination to do well in life, and so even a poor father weighed down with debt supplies funds to enable his son to pass the B.L. or at least the B.A. examination. It does not require much effort to pass that test anywhere. Why should the students therefore avail themselves of the opportunities mentioned in question 2 (*a*), (*b*), (*c*) and (*d*)?

Unless a spirit as of old is again created in India, that a learned man does not care for worldly goods, but is respected even by the mightiest of Kings, there can be no incentive to real learning, however much the system is improved.

BARROW, J. R.

I agree with the propositions laid down. The obstacles in the way of such training are :—

(i) The huge number of students, mostly the products of poor school training, which involves or has led to :—

(A) The multiplication of colleges,

(B) The cheapening of degrees.

(ii) A general acquiescence in the cheap and inferior in the matter of college buildings and equipment, and the attainments of students.

There can, I think, be no remedy for this state of things without :—

(1) Improvement in schools.

(2) Reduction of the numbers in colleges.

Even assuming the improvement of schools, the preservation of a decent standard of university training is hardly possible with our resources so long as we have to provide for such vast masses of the mediocre, who form the majority in every community (I mean "mediocre" from an academic point of view). As an ideal to be held in view, it is doubtless desirable that everybody should be highly educated. That may come some day. But taking things as they are we may lay it down that the great majority of school-boys will not pursue any subject to an advanced stage. Why then should they go to a university ? It is no doubt true that Oxford and Cambridge accept large numbers of students who have no intention of undergoing a real university training. Whether it is desirable that they should do so is open to doubt. But there is a very sharp line drawn at these universities between the honours man and the pass man ; and those who go up for social or other reasons pay for the privilege. Consequently their presence in large numbers does not interfere with the attempt to afford suitable instruction to the honours man. Here, where there is a constant struggle to make both ends meet, I think far too much money and energy are spent on students who, as things are, have no real business to be at a university at all ; and the interests of those who could really profit by university training are sacrificed.

To avoid possible misunderstanding, let me explain that of course I do not wish to diminish the sum total of education. On the contrary, I should like very much to increase it. But I wish to get rid of the waste and misdirection of energy which, it seems to me characterise the process of education in Bengal. At present, the schools do their work so badly that supplementary institutions which we call colleges are created to fill up the blanks left by the schools. These "colleges," like the schools, are overcrowded. Like the schools therefore they do their work badly, and as two bads do not make a good, it follows that university graduates are in many respects inferior to well-trained school-boys.

One point may be added. Although many of the members of the staffs of mofussil colleges are quite the equals of those in Calcutta, still there is a noticeable reluctance on the part of many of the best men to be isolated in the mofussil. This creates a difficulty from which mofussil colleges, especially in small places, suffer, and will continue to suffer.

BASU, NALINIMOHAN.

(*a*), (*b*), (*c*) and (*d*). My reply is in the affirmative.

I regret that the ideal, though attainable, has not been fully attained.

(*a*) The poor remuneration offered to men who choose the profession of teaching does not prove sufficiently attractive to men of parts, who have a likelihood of being appointed to some far more remunerative post under Government. Many brilliant scholars who might have become distinguished teachers are thus lost to the University. Then again, the system of Educational Services is discouraging to men of ability. Members of the Provincial Educational Service, who have not only established their reputation as most efficient teachers, but have also proved their rare talent by valuable original researches have not been permitted to become permanent members of the Imperial Educational Service which is, with a few exceptions, reserved for Europeans, many of whom are unknown either as teachers of first-rate ability or as having published original research work. This not only reflects a gross insult on the talented Indians of the Provincial Educational Service, but actually dissuades many young men from joining the profession of teaching. I strongly favour the appointment of first-rate men from European universities on high salaries, but at the same time hold that the services of competent Indians should be given better recognition, and that they should be placed on the same footing as the members of the Imperial Service.

(*b*) Well-appointed libraries and laboratories are rare in Bengal, and there are hardly any worth the name outside Calcutta. Perhaps the best library and the best laboratory in Calcutta are those of the Presidency College, but these are not accessible to teachers and students not belonging to that college.

(*d*) The teachers in most colleges are not only over-worked but ill-paid. Thus the little leisure they may have they spend in adding to their income, and they do not find any opportunity for carrying on original investigations.

BASU, P.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal is not attained in Bengal, but it is attainable with certain modifications of the existing system.

(*a*) Teachers of first-rate ability and of recognised standing in their subjects are not sufficient in number. The cause is the bad financial prospects of a teacher. Thus the Government services and the Bar attract the best scholars of the University. This ought to be remedied without delay. Again, personal guidance in the colleges can be secured only by limiting the number of students in a class so that the students may feel, and the teacher may be assured, that the guidance is really given and received. Any doubts as to this necessarily make the working of the system more mechanical than it should be.

(*b*) This is a question of finance, but sometimes the management of a college is unwilling to add to the library. This is due to an ignorance of the value of an up-to-date library. The remedy lies in fixing in general terms a proportion of the assets of a college which must be so spent. Inter-collegiate use of libraries may solve the problem of finance to some extent.

(*c*) Freedom of teaching should be accompanied by a minimum standard which should be fixed by the University. Otherwise, the divergence of standards of training given in the different colleges within the same university would be too great.

(*d*) That this is attainable under the existing system in Bengal is shown by the post-graduate staff of the Calcutta University where the teachers are given

BASU, P.—*contd.*—BASU, Rai P. K., Bahadur—BASU, SATYENDRA NATH—Bengal Land holders' Association, Calcutta—Bengal National Chamber of Commerce, Calcutta.

comparatively greater leisure, which is utilised by the majority of the members in the pursuit of independent investigation in their own or cognate subjects. If the teachers are well selected and if they are given ample leisure and a good library, this tendency to original research is bound to be accelerated.

BASU, RAI P. K., BAHADUR.

(*a*) I certainly hold the view that the ideal should be what is said here, but do not consider that it is attainable under existing conditions in Bengal. Putting aside the controversial aspects of the question, it will be enough to say that the number of students entering the University every year is far too large to make the condition effective. The number of first-rate teachers is necessarily limited and there is little prospect of the supply of such teachers being sufficiently large to meet the demand in the near future. Placing a large number of pupils under one man, however able, would defeat the object. On the other hand, an attempt to restrict the number of students entering the University is sure to be interpreted as an attempt to close the only door to a respectable and comfortable life open to young men.

BASU, SATYENDRA NATH.

(*a*), (*b*), (*c*) and (*d*). University training should involve all that is stated, though it may be very difficult to secure the services of "teachers of first-rate ability," they being so rare even in advanced universities.

The functions of a university so far as teaching is concerned, would probably be better discharged if it could be entrusted to competent Indians.

Bengal Landholders' Association, Calcutta.

We do. But we want to add to the qualification of teachers, sympathy for and feeling of companionship with the students.

We do not think the ideal has been attained, but we believe it is attainable. It means modification of the present system and candid recognition of the principle that the nation must have its progressive hopes stimulated and needs met. The question of funds also must be taken into account. It is undoubtedly desirable that students should, as far as possible, be placed under the personal guidance of teachers of first-rate ability. But then the number of teachers must be considerably increased: and their pay and prospects should be so improved as to invite men of proved ability to devote themselves whole-heartedly to the work of education.

As regards freedom of teaching and study, no doubt a larger degree of freedom should be granted in the higher stages of university education; but constituted as the Calcutta University at present is, this freedom should be tempered by the necessity of maintaining a certain uniformity of standard in the quality of education imparted.

Bengal National Chamber of Commerce, Calcutta.

Please see our reply under question 1. Page 29 above.

QUESTION 2.

Bethune College, Calcutta.

Bethune College, Calcutta.

Sen, Pares Nath.
Mukerjee, Bijoy Gopal.
Bhattacharya, Krishnachandra.
Sen, Probodh Chandra.
Chowdhury, Benoy Kumar.
Chatterjee, Kumud Bandab.

A University at its best should fulfil these conditions. How far the ideal is attainable under the existing system in Bengal may be considered under each head :—

(*a*) We require more teachers of first-rate ability than we have at present. It is to be hoped that sufficient funds will be forthcoming for the University to secure the services of scholars, if not of the first rank, at least of some recognised standing in their subjects.

(*b*) Libraries and laboratories may be well-appointed without being too costly. Taking the resources of the University and of the constituent colleges together, we have already libraries and laboratories that are sufficiently equipped for much useful work ; and it would not be very difficult to expand them and make them more freely available to teachers and students than at present.

(*c*) It cannot be denied that the freedom of teaching and of study in this University is to a large and probably an undue extent restricted by the requirements of the examinations. How far the rigidity of the examinations can be reduced will be considered under question 9. But having regard to the conditions of the country (partly detailed in the reply to question 15), it is to be expected that examinations will continue to be one of the most important functions of this University. There is room, however, for the expansion of the freedom of post-graduate teaching and study ; and it should be possible—at least made possible—for a select class of students to share this freedom without hurrying to join the services or the professions.

(*d*) To ensure sufficient leisure for teachers to be able to pursue independent investigation, it is necessary to have a larger number of teachers than at present ; and it is not unreasonable to expect that funds will be available for this purpose. But there will hardly be sufficient motive for carrying on original work unless we have here a body of real experts of recognised standing who can test it and bring it before the learned world and unless also there be some tangible recognition (which need not be pecuniary) of the status of such teachers as can show a good record. The former requirement may be satisfied if condition (*a*) is fulfilled ; and as to the latter, it cannot be met by the University alone.

On the whole therefore, we believe that the standard of a university as indicated in the question can be in a fair measure attained under the existing system in Bengal.

Yes. These requisites (*a*), (*b*), (*c*), (*d*) are necessary in a university at its best, but the ideal is not attainable under the existing system without violent modifications. There should be much greater freedom of teaching and examining on the part of teachers in charge of their subjects and of study on the part of the students.

Roy, Debendra Nath.

The number of teachers of first-rate ability should be increased, and the number of teachers, both first-rate and other grades in each college should be largely increased so that every student may come under the personal guidance and moral influence of at least one teacher, and the teachers may have sufficient leisure to be able to pursue independent investigation in their own subjects.

Personally, I think that to obtain this ideal, so great a modification of the present University would be necessary that it is very difficult to know how much of the present university system would be left. It is also very difficult to know whether the machinery of the University as set up by Government would be capable of giving us this ideal if the said machinery was placed in totally different hands, hands belonging to those imbued with the highest ideal of university life, or whether such people would find it necessary to have different machinery. My opinion leans to the latter course being found necessary.

Janau, Miss A. L.

BHADURI, Rai INDU BHUSAN, Bahadur—BHADURI, JYOTIBHUSHAN, DEY, B. B. and DUTTA, BIDHU BHUSAN—BHANDARKAR, D. R.—BHANDARKAR, Sir R. G.—BHATTACHARJEE, MOHINI MOHAN.

BHADURI, Rai INDU BHUSAN, Bahadur.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal is not attainable under the existing system. The University, as at present constituted, is more or less an examining body, and unless it takes up teaching, this ideal cannot be attained.

BHADURI, JYOTIBHUSHAN, DEY, B. B. and DUTTA, BIDHU BHUSAN.

(*a*), (*b*), (*c*) and (*d*). The answers are in the affirmative.

The ideal of true university education is not wholly attained; but is attainable in its entirety, if the existing system be suitably modified by an improved system of school education and by the appointment of a large body of professors of first-rate ability, who may be selected by a strong standing committee of the University.

BHANDARKAR, D. R.

(*a*), (*b*), (*c*) and (*d*). Yes.

Conditions laid down in (*c*) and (*d*) are certainly fulfilled in my case and also in that of other professors and teachers so far as I have been able to judge in regard to the University College only.

BHANDARKAR, Sir R. G.

(*a*), (*b*), (*c*) and (*d*). I do consider that university training involves the points enunciated.

The ideal is not attained in the existing system. I do not see why it should not be attained, why students should not be placed under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects. This might involve financial difficulties. But I do not think it is impossible to secure one or two teachers at least of this description for a collegiate establishment. That a teacher may be able to personally guide and influence his pupils, it is necessary that the classes should be of a manageable size and be composed of not more than about fifty students. This it ought not to be difficult to secure.

(*c*) I hold, that there should be a large degree of freedom of teaching and of study. I understand by this expression that subjects, not included in the university curriculum, might be taught and studied. But there is a difficulty which will be fully noticed later on and which consists in the danger of studies degenerating or becoming futile semblances when not tested by an examination, and on the other hand, when examinations are rendered necessary everywhere, of their becoming merely mechanical.

(*d*) Teachers are, under the existing circumstances, allowed sufficient leisure and they should be compelled to pursue independent investigation in their own subjects instead of applying themselves to other matters or doing nothing important.

BHATTACHARJEE, MOHINI MOHAN.

(*a*), (*b*), (*c*) and (*d*). The answers to all four are in the affirmative. All the great universities of the world act on the principles embodied in these questions. As regards the first question I do not think it is possible to place students under teachers of first-rate ability for personal guidance, though everybody will admit that lectures should be delivered by such teachers. Students secure personal guidance from assistants to professors or tutors.

BHATTACHARJEE, MOHINI MOHAN—*contd.* BHATTACHARYA, JOGENDRANATH.

The ideal scarcely existed in the University before the Act of 1904. During the past few years the ideal has been partially realised through the endeavours of Sir Asutosh Mukherjee. The establishment of university chairs and the formation of post-graduate classes, where teachers from the different colleges lecture on their special subjects, are steps towards the partial realisation of the ideal. There were defects in the university system—and most of them still continue—which made the ideal unattainable. The regulations which brought into being the Post-graduate Councils in Arts and Science have to a certain extent, removed these defects so far as post-graduate teaching is concerned, but the old system of under-graduate teaching still continues.

Prior to the passing of the post-graduate regulations, post-graduate teaching was undertaken at different colleges in Calcutta. The post-graduate teachers had also to lecture to under-graduate classes and had not therefore sufficient leisure to pursue independent investigations. The funds of the colleges also did not permit the appointment of recognised teachers in the subjects taught. The University has now undertaken all post-graduate teaching and removed the difficulties in the way of first-rate teaching to a certain extent. But the University requires more funds for the further realisation of its scheme.

Under the existing system of under-graduate teaching the ideal is not attainable. The ideal would be attainable in Calcutta if its colleges co-operated with one another in matters of under-graduate teaching. At present the colleges are isolated and afford an illustration of the weakness of disunion. No college has funds sufficient for the appointment of teachers of reputation or for building up good libraries. But if they unite and make over their funds to the University, the University may utilise the combined funds of all the Calcutta colleges supplemented by grants from Government if necessary, by the appointment of teachers of first-rate ability. If this can be rendered possible there need not be any multiplication of the same lectures in all the colleges. Some two or three colleges may specialise in science, two or three in literature, two or three again in history, and so on. Teachers appointed by the University would be distributed amongst the colleges according to their subjects. Students may be residents of any college, but would attend lectures in all the colleges where lectures were delivered in their subjects.

BHATTACHARYA, JOGENDRANATH.

The chief function of a university should be not only to train the scholars and undergraduates intellectually, but also to help the formation of their character. This can only be done by placing them under the personal guidance and control of teachers of first-rate ability and character. It is their personality that is an important factor in the development of their character. The mind of the professor must touch the mind of his student, if the latter is to derive the greatest benefit from the former. The teacher, on the other hand, must not be hampered by definite courses of study and by examination requirements; he should have ample leisure and freedom of teaching. Both he and his students should have access to good and well-equipped libraries and laboratories, and there will be a systematic collaboration of their work. This is essentially necessary in the more advanced stages of instruction. But this condition will be attainable only when local teaching and residential universities will be set up. At present, there is too much lecturing and too little work of other kinds. The pupil simply transcribes and learns by rote the notes he has taken down in the class. His sole object in attending is to secure his percentage. The professor, on the other hand, does not care for the student under his charge, and often betakes himself to other pursuits till the next day's lesson. There is no free intercourse, no community of life between the teacher and the taught, which is the essential ideal of a college. The residential arrangement is a step in this direction, but this system will not suit the present conditions, for it is generally seen that the bulk of the students, who want to go through the university course, come from the middle class of Bengal, and this class is generally not very rich. If the expenditure on account of residential system is heavy, a great deal of embarrassment will be caused to the father who has two or three sons to educate. A teaching and residential

university will be a boon to this country, provided the cost of educating a boy be not prohibitive.

BHATTACHARYA, KRISHNACHANDRA.

A university at its best should fulfil these four conditions. How far the ideal is attainable under the existing system in Bengal may be considered under each head :—

(*a*) We require many more teachers of first-rate ability than we have at present. The University should have a body of real experts who will command the confidence of the learned world here and abroad. The possibility of making our university progressive, of keeping it in touch with the great centres of learning in the West, and of securing its due place alongside of them depends primarily on this condition. It is a question of funds and of careful recruitment. In view of its importance, it is hoped that ways and means will be found to secure the services of scholars, if not of the front rank, at least of some recognised standing in their subjects.

(*b*) Libraries and laboratories may be well-appointed without being unduly expensive. Taking the resources of the University and the colleges together, we have already libraries and laboratories sufficiently equipped for much useful work ; and it need not be difficult to expand them and make them more freely available for teachers and students than at present.

(*c*) It is a fact that examinations occupy a very large place in our university. Although in the peculiar conditions of our country they will retain their importance for a long time to come it is possible to give the colleges a certain measure of freedom of teaching (see my reply to question 9) and to organise research institutions for the benefit of post-graduate students and of teachers. An experiment can also be made to attract the general public by arranging for regular courses of popular lectures in the University. We have already certain learned societies unconnected with the University which may be expanded and incorporated with it ; and the system of university extension lectures that has been instituted may be extended and conducted on a more definite programme than at present.

(*d*) The University under the new regulations has made the lot of teachers easier in this respect than before. It has consistently insisted on an increase in the number of teachers, on a reduction of their hours of work, and on the abolition of a pluralism of subjects professed by individual teachers. More might be done in this direction and it is hoped that lack of funds will not stand in the way.

What is more important, however, is that there should be a sufficient stimulus for teachers to pursue original investigation. A prime requisite for this purpose is an organisation for appraising their work and bringing it before the learned world. Such an organisation may be possible if condition (*a*) is fulfilled. There should be some tangible recognition of the status of such teachers as can show a good record in this respect.

On the whole, I believe that the ideal of a university as laid down in this question can be in a fair measure attained under the existing system in Bengal.

BHATTACHARYYA, BAIKUNTHA NATH.

(*a*), (*b*), (*c*) and (*d*). The answer is in the affirmative.

The ideal is not attained under the existing system in Bengal. It may be attainable to some extent, with the following modifications :—

I. Post-graduate study and research. (i) The post-graduate teaching should be given exclusively by the University.

(ii) Endeavours should be made to secure the services of teachers of first-rate ability and of recognised standing in the subjects.

BHATTACHARYYA, BAIKUNTHA NATH—*contd.*—BHATTACHARYYA, HARIDAS.

(iii) The post-graduate colleges should be adequately equipped with libraries and laboratories.

(iv) There should be no prescribed syllabus, teachers and students working with perfect freedom.

(v) There should be no examination for a post-graduate degree; it being dependent upon the production of something original in the branches of study and research taken up by the students.

II.—Graduate classes (i) The number of students is a serious handicap. It is expected that with the establishment of higher technological institutions in the country, an appreciable number of students, after finishing their I.Sc. course, will choose some technical lines and the pressure of admission into graduate classes will be reduced. A double degree is not at all necessary for becoming a lawyer. Students should have the option of taking the B.L. course above the intermediate stage. These indirect checks upon the influx of students into arts and science colleges will enable the authorities to adjust the number of admissions to the strength of their teaching-staff, without discouraging higher education. Under no circumstances should a teacher have more than 50 students in his class.

(ii) It is difficult to secure competent teachers for the majority of our colleges till post-graduate study and research are improved, but the University authorities should see that a man is not employed in the teaching of a subject, in which he does not specialise.

(iii) The system of a common examination for all the colleges affiliated to the University precludes all idea of perfect freedom of teaching and study in the graduate classes; but some degree of freedom can be allowed by asking the colleges to prepare their own syllabuses and to submit them to the University whose experts will then fix the minimum requirements for different examinations from an analysis of these diverse units. The teachers should be left free to choose their own text-books on a prescribed syllabus.

BHATTACHARYYA, HARIDAS.

(*a*), (*b*), (*c*) and (*d*). University training at its best involves not only all these but also that students should be better equipped for the battles of life.

(*a*) While recognising that the students should be placed under the *personal* guidance of *teachers* of first-rate ability and of recognised standing in their subjects, I should like to point out that men of the ideal type of character ought first to be sought for.

The University should have two types of teachers. The first will consist of men of recognised standing in their subjects—original thinkers who will bring the University fame and teach the students' methods of thinking. The other type will be teachers of first-rate ability—men chosen for their powers of exposition and criticism. I cannot condemn too strongly the method of preferring men who have *printed* something to men who can *teach* infinitely better. It not infrequently happens that an original thinker is a narrow specialist and an imperfect expositor.

I am personally of opinion that the costly system of recruiting men from outside India either for college or university work has failed. So far as practicable, local men should be recruited. The climate of Calcutta has been found to affect adversely the capacity of men recruited from outside, though it is becoming more and more congenial to local thinkers. The long stretches of leave granted to university professors do not conduce to the personal guidance of students by such teachers.

The distinction between teacher and tutor is not particularly happy. Inexperienced men are usually appointed tutors and thus the persons to whom students go oftenest for advice in their studies and references are least fitted for such

BHATTACHARYYA, HARIDAS—*contd.*—BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA.

work. Each teacher should have certain tutorial periods. Inexperienced men should not be entrusted with more than text-book teaching.

(*b*) My answer to this is unconditionally in the affirmative. An Asiatic centre of learning is under the disadvantage of being far away from the original homes of much modern culture and to this is added the further difficulty that their publications are not always available here. Teachers again are ill-paid, and students of the middle class cannot afford to buy all the recommended books. I believe that the present system of dictating notes to classes has arisen because teachers feel the hardship of students who cannot buy all the recommended books, but whom a rigid system of examination requires to be acquainted with their contents. The idea that at Calcutta students cannot take books out of the university library would be monstrous elsewhere.

Non-collegiate students ought to have some of the facilities enjoyed by college students.

(*c*) While agreeing that a large degree of freedom of teaching and study is desirable I should make a distinction between under-graduate and post-graduate teaching. In the latter it is possible and desirable that teachers should have greater freedom in teaching. But as there is a large body of non-collegiate students going up for the M. A. and M. Sc. examinations every year, it is but just that the proposed course of teaching embodied in a syllabus should be available to these for a price to be fixed by the post-graduate councils.

The courses fixed by the University for the various examinations make it impossible to leave much freedom to teachers of under-graduate classes. As I do not subscribe to the view that all university teaching should be centralised, there must necessarily be different colleges affiliated to the University and hence teaching must necessarily follow the course prescribed.

Freedom of study is, however, desirable and should be fostered by allowing students greater leisure and library facilities. The percentage of attendance ought to be substantially lowered.

(*d*) A maximum number of working hours for teachers ought to be fixed but, subject to this condition, teachers should be allowed to teach more than one subject if they have the necessary qualification.

Leisure granted to teachers is likely to be misused unless their pecuniary prospects be bettered and ample library facilities given.

Teachers ought not to be compelled to apply for leisure. Leisure ought to be granted to those teachers who apply for it, but in consideration of leisure given such teachers ought to show that they utilised it in the shape of a paper or original book. The University ought to publish a journal embodying the researches of its professors and lecturers.

Those teachers who do not apply for leisure ought to have more teaching work than those who do. If at the end of a prescribed period a teacher fails to produce an original paper or thesis his teaching periods should be increased.

Senior professors of affiliated colleges should have some of the privileges and facilities of university lecturers.

Bengal can realise the ideals of sound university training if she shows greater discretion in the choice of teachers and students, affords them better library facilities and makes the prospects of her teachers more hopeful. It will not, however, be possible to secure teachers of first-rate ability for under-graduate work as the prospects in a privately owned college are not alluring.

BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA.

(*a*) In science subjects only the personal guidance of the best teachers is necessary.

(*b*) Yes.

(*c*) Yes.

(*d*) Yes.

BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA—*contd.*—BHOWAL, GOVINDA CHANDRA—BISS, E. E.

The professors and teachers are over-worked, and thus seldom have time for independent investigation ; and the arts students of the M.A. class often complain that their lectures commence at 11 and end at 4, and thus they get no advantage of constant use of the library.

BHOWAL, GOVINDA CHANDRA.

(*a*) Yes, in the case of mediocre students. But in the case of the students of exceptional merit and genius they should be allowed full freedom which is more favourable to development of self-help, self-reliance than external guidance and control.
(*b*) Yes.
(*c*) Yes.
(*d*) Yes.

The ideal is not attained or attainable under the existing system in Bengal. The standard indicated in :—

(*a*) is not attainable as it involves the establishment of the residential system which is too expensive for the students of this country who are generally poor. There are a large number of students who depend for their board and lodging upon the private charity of generous friends and relations. Besides, the residential system is not practicable in a country where there is diversity of caste and creed. Moreover, the students are deprived of home influence and are apt to be estranged from their parents. The residential system has already begun to come into public disfavour in Scotland and America.
(*b*) Financial difficulty is in the way of that.
(*c*) It cannot be fairly applied inasmuch as it involves an increase in the number of teachers and of accommodation. The present examination system which cannot be dispensed with also stands in the way. It may be good for students who have a love of learning for learning's sake. It will require professors vastly learned. That again raises the question of cost.
(*d*) This cannot be applied as it involves an increase of leisure to the teachers which again involves an increase in their number. This will put a great strain upon the pecuniary resources at the disposal of the University and Government.

BISS, E. E.

(*a*), (*b*), (*c*) and (*d*). The ideals of university education set forth are excellent. I have come into intimate contact with a good many graduates and others from the colleges spread over Assam and Bengal. These have been in training for the teaching profession which is perhaps not generally sought after by the ablest products of the colleges, but even so it does not appear to me that the ideal set forth has been attained.

In view of the enormous development of college education in Bengal I do not think that the test can now fairly be applied in general. This does not mean that the situation in this respect is to be regarded as hopeless. The time has probably come for the careful selection of certain teaching agencies and for their development on the lines suggested in the question ; but it appears to me that, in fairness to the people of Bengal, arrangements must also be made to continue the existing type of education with such improvements as are immediately practicable. For, though the teaching now given includes far too many lectures which are, in many cases, poor in quality, it would be most inadvisable altogether to condemn existing things because they do not reach the highest standard of excellence. Reliance must rather be placed on the improvement of individual institutions one after another.

BISVAS, Rai DINANATH, Bahadur—BISWAS, CHARU CHANDRA—BISWAS, SARATLAL—BOMPAS, The Hon'ble Mr. C. H.

BISVAS, RAI DINANATH, Bahadur.

(*a*) Yes.
(*b*) Yes.
(*c*) Yes.
(*d*) Yes, sufficient leisure ought to be given to the teachers and their number should be increased but that means a heavy expenditure. Private colleges with their limited resources will not be in a position to maintain the desired standard.

Then again, if sufficient leisure be allowed to the teachers, it is doubtful whether they will pursue independent investigations in their own subjects, unless they be made to submit thesis of their subjects periodically.

My idea is, under the existing system the aforesaid functions of the University cannot be obtained unless there be a thorough change which means establishment of residential and teaching Universities, involving heavy expenditure in view of the very large number of matriculates entering the University.

BISWAS, CHARU CHANDRA.

(*a*), (*b*), (*c*) and (*d*). University training at its best does, in my opinion, involve the conditions mentioned, and I consider that the standard indicated is attainable under the existing system in Bengal, though not attained. The question is mainly one of funds, and if sufficient funds are forthcoming, neither the size of the area with which the University has to deal nor an increase in the large number of the candidates need present any difficulties in the way of practical effect being given to the ideal.

The attainment of the ideal requires that:—

(*a*) There should be teachers of real ability and standing.
(*b*) The libraries and laboratories should be more closely linked up than now.
(*c*) The courses of studies in the higher stages should be made more elastic (*vide* my answer to question 5).
(*d*) The number of teachers should be sufficiently large.

BISWAS, SARATLAL.

(*a*) Yes; and this should be observed even in the schools.
(*b*) Yes.
(*d*) Yes. The teachers should be given sufficient leisure and scope for independent investigation which should form an essential part of their duties. They are to be employed as whole-time servants, no teacher being placed in charge of more than one subject. They will not be allowed to follow any other profession (such as law—very common now-a-days) along with teaching work. Their pay and prospects should be such as to enable them to stick to the education line wholeheartedly.

The ideal is not yet attained, but it is attainable if the existing system be modified to some extent.

BOMPAS, the Hon'ble Mr. C. H.

(*d*) As stated in my answer to question 1, the University, in my opinion, is firstly a place of study; secondly, a place of teaching. There is, in my opinion, no reason to anticipate in any particular case that a brilliant scholar will make a successful teacher, more particularly, of students of only average ability.

BOROOAH, JNANADABHIRAM—BOSE, B. C.

BOROOAH, JNANADABHIRAM.

(*a*) Yes, I share this view. As far as I can see the teachers and the taught in a big centre like Calcutta cannot meet outside the classes. I understand, however, that with the increasing facilities of university education directly under the University this object has been partially gained, and some eminent men are being assisted by the students in their practical work. For this system to gain ground more professors will have to be appointed so that each professor will have only a limited number of students and give them individual attention. There should not, however, be a limit to the admission of students. As students increase professors should also increase. The door of education should be left wide open so that the seeker after knowledge may enter freely.

(*b*) This is essential—students should not only be encouraged to make use of libraries, but those students who do not attend them may be compelled to do so. As, however, it will not be possible to make rules for some students only, compulsory attendance of college libraries by students ought to be a general rule. The head librarian should be a man of learning and should have assistants as clerks and assistant librarians. The librarian will not be expected to do any clerical work.

(*c*) As long as the examination is the only test by which a student's merit can be recognised that freedom cannot be attained. Post-graduate students (I do not include the B.L. course as a post-graduate study) may be given this freedom. For instance, when a B.L. wishes to get his degree of M.L., he may have, and be given, an unlimited scope in his choice.

(*d*) Yes.

I think the ideal is attainable and I have no doubt that it will be attained completely as time goes on. Some of the learned professors have developed the faculties of investigation among their students —but the number of professors should be increased.

BOSE, B.C.

(*a*) and (*b*). These two ideals are good enough in themselves, but they necessarily involve other issues which cannot be overlooked. Thus, (*a*) raises the question of the number of students, which must not be kept down artificially; and, as for (*b*), it seems better to continue education even in unsatisfactory surroundings than to postpone it till model environments can be secured. No one desiring education should be denied it on the ground that the best is not yet possible; *some education is better than none at all.*

(*c*) This ideal should not be allowed to introduce *unnecessary chaos* into the academic courses. A certain degree of uniformity should always be observed for the sake of order and regularity, beyond which everyone should be at liberty to extend his knowledge or scope of instruction as far as he likes.

(*d*) Independent investigation by the teachers is desirable, but an earnest and abiding endeavour *to teach most effectively* should be always kept in the foreground, and everything else subordinated to it. To devote much of their time to *investigation* would seem to be a dereliction from their proper duty. Exception may be made in the case of a few who are specially gifted with the spirit of research. And, even in such cases, it would be a wholesome procedure to expressly specify a part of their pay for this kind of work. Otherwise many teachers may be tempted to squander their mental resources in vain attempts at originality, or seek to justify the neglect of their proper duty with the plea of 'research.'

BOSE, Rai CHUNILAL, Bahadur.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal is not attained under existing system in Bengal, but it is certainly attainable if the system be improved by an increased staff and better emoluments. Residence in collegiate hostels should be made compulsory in the case of those students who have no suitable guardians to live with, and only a small number of such students should be placed under the direct care and personal guidance of a good teacher. It must be admitted that public opinion is not yet unanimous in favour of the residential system, and the financial difficulty at present is also of considerable magnitude. Students having natural or well-appointed guardians should not be disturbed.

Professors in many colleges are overburdened with routine work; they should have more time to devote to original work in which senior students of ability should, as far as possible, be associated.

BOSE, G. C.

(*a*), (*b*), (*c*) and (*d*). As to the functions of a university I share the view contained in this question.

I do not consider that the ideal is attained or attainable under the existing system in Bengal. My reasons for this conclusion are mainly :—

(i) That the profession of teaching has hardly a recognised status either in university or public life, so that *bonâ fide* teachers are a rare commodity and men of first-rate ability seldom betake themselves to teaching as a profession.

(ii) The number of admissions to the University is much too large for the attainment of the ideal with the limited number of colleges affiliated to the University.

(iii) Freedom of teaching and of study is at a discount under the existing system, both being imprisoned as it were within the stone-walls of prescribed books and mathematically rigid examinations and regulations.

(iv) In the post-graduate studies where there should be the greatest amount of freedom in every direction, there is at present the same undergraduate system of prescribed books, lectures, tutorial classes, dictated notes and summaries, tyranny of examination, rigidity of marking, army of teachers and several other impediments to genuine teaching and study.

BOSE, HARAKANTA.

(*a*), (*b*), (*c*) and (*d*). Yes, it certainly does.

In a poor country like ours, there are great difficulties in the way of its attainment. The financial resources of most of the educational institutions in Bengal, are so miserable that they can hardly satisfy even the modest requirements of the University. In spite of their manifold shortcomings, they are serving a very useful purpose; for it is through them that the blessings of higher education have become accessible to thousands of poor youths. The ideal may, to some extent, be attained in the following ways :—

(i) Those colleges that through lack of funds cannot have the necessary equipment and staff should be liberally subsidised by the State;

(ii) There should be a well-stocked central library and a well-equipped central laboratory maintained at Calcutta by the University for the use of the teachers and post-graduate students;

(iii) Free discussion and independent investigation in matters scientific and literary, as well as religious, social and political, should, as far as practicable, be allowed in the post-graduate classes;

BOSE, HARAKANTA—*contd.*—BOSE, J. M.—BOSE, KHUDI RAM.

(iv) The teachers should be encouraged to pursue independent investigation in their own subjects; for this purpose, the University should create a number of fellowships; and those teachers who have shown real aptitude for, and have actually devoted themselves to, original research, should be allowed sufficient leisure. Ordinarily, a college professor may conveniently teach for ten hours and a school master for eighteen hours, a week; in consideration of his heavy administrative work, the head of a college or of a school should not teach more than seven or eight hours a week.

BOSE, J. M.

(*a*) Yes. In Bengal the number of pupils is very large as compared with the number of teachers. In some of the colleges the number of pupils is so large that the teachers do not even know their students, and therefore this ideal is not attained in Bengal. But it is attainable in the case of a few well equipped colleges, *e.g.*, the Presidency College. Under the present regulations, lecturers are not allowed to give private tuition to the students, as they do in Cambridge. But with the present staff it is quite possible to divide the members of the Presidency College honours classes into batches of ten, and place each batch under the personal guidance of a lecturer, and if this is done, it will be greatly to the advantage of those students.

(*b*) Yes. But the "private" and the mofussil colleges do not possess libraries or laboratories in the sense these terms are understood in Europe. This condition is therefore only partially attained in the case of Presidency College.

(*c*) Yes. But under the existing system teaching is too rigourously subordinated to examination.

(*d*) Yes. No teacher can ever acquire any influence over the students or discharge his duties efficiently, unless he is willing, and permitted to, increase his own knowledge by private study and research. But at present the majority of teachers have neither the leisure nor the opportunity to devote themselves to private study and research. But I am glad to say that, in spite of the many difficulties, there are a number of teachers and students who are doing valuable research work in mathematics and chemistry.

BOSE, KHUDI RAM.

(*a*), (*b*), (*c*) and (*d*). The queries embodied herein should all be answered in the affirmative.

But the high ideal of university education thus adumbrated, is altogether unattainable in Bengal for the reasons given below:—

(i) "Teachers of first-rate ability," in appreciable numbers, are a rarity from the standpoint of intellectual culture and still more, from that of moral culture. It is an open secret that at the start of high English education in these provinces, our immediate academic predecessors of the pre-university, and even of the early post-university times, had the privilege of large personal guidance of, and intercourse with, teachers of high educational repute. But these pioneers of educated young Bengal came to acquire an unenviable notoriety as champions of intemperance and other heterodox improprieties in their generation, indubitably through the resistless temptation of imitating the ways and manners of their venerated teachers who were to them in those days veritable 'guides, philosophers and friends.' Coming down to recent times, we have had extremely bitter experiences, on similar lines, of intellectuality and morality standing in an inverse ratio to each other. The citing of concrete instances in this connection would, indeed, be counting a perilous predicament. Stringently moral and abstemious life at the

BOSE, KHUDI RAM.—*contd.*—BOSE, Miss MRINALINI—BOSE, RADHIKANATH.

educational stage, has been cherished as the time-honoured ideal of student-life in this country; and unless and until the resuscitation of such an ideal could be ensured through the living personal intercourse between the teachers and the taught, the measure of reforms suggested herein would be of very little moral value.

(ii) Accession in overwhelming numbers to the rank of our under-graduates from year to year again, renders the contemplated "ideal university training" an impossibility and excludes it from the purview of practical pedagogics. It would again be utterly impolitic, nay inhuman, to shut out artificially by an abnormal raising of the standard of examination a large body of young students every year. Our sacred Temple of Learning here, with the priceless motto "Advancement of Learning" inscribed on its portals, can never refuse admittance therein to the multitudinous ardent pilgrims vying with one another to cross its threshold. We have had enough of the oscillation of our academic pendulum in the past between "*Pass*" and "*No pass;*" and the problem for the educational reformers of the present day, should be, not why so many candidates pass successfully, but why so many are ploughed. In the continental seats of learning in Europe and in the far West, it is viewed in no other light. Many of our unpromising students have been found, after their temporary sojourn there, to return home with some very fascinating diplomas and distinctions. Altogether in this race of educational advancement, our young men should not be expected to excel their trans-atlantic and continental compeers in the West.

(iii) Lastly, the phenomenal poverty of the great middle class people of Bengal —a large majority living in point of fact beyond their means—may be taken to be an insuperable barrier to the materialisation of this ideal training on simple grounds of domestic economy.

BOSE, Miss MRINALINI.

(*a*) Yes.
(*b*) Yes.
(*c*) How far it would be practicable is doubtful.

BOSE, RADHIKANATH.

(*a*), (*b*), (*c*) and (*d*). I share the view, set forth as to the true functions of a university.

I do not consider that the ideal is actually attained under existing conditions in Bengal. The circumstances which appear to me to stand in the way of the realisation of this ideal are briefly stated below.

(*a*) The unattractive character of a teacher's position is the most vital drawback against securing men of first-rate ability for educational work in our country. Men disappointed in other departments generally take shelter in the Education Department. The best graduates of the University, if they care to accept a professorship in a college, usually make it a stepping-stone to a more lucrative office. No wonder, therefore, that we notice a lack of earnestness among many of the teachers in our schools and colleges. The remedy for this evil is not far to seek. We must substantially improve the pay and prospects of our teachers before we can expect to have a sufficient number of well-qualified men who will take up the work of teaching as their life's calling. Most of our available financial resources are now-a-days spent on the construction of fine buildings for our educational institutions. I do not under-rate the importance of buildings in an educational scheme. It does a student some good to live and move and have his education in the midst of impressive surroundings. But the employment of able and well-paid teachers is much more a *sine quâ non* for the success of our educational institutions than the erection of costly

buildings. To starve the teaching staff, therefore, for the sake of externals is an unsound educational policy.

The selection of men for teaching work in both Government and non-Government schools and colleges is now-a-days too often influenced by racial and other ultra-educational considerations. This is not as it should be. For educational appointments, the best available men should always be selected, irrespective of caste, colour or creed. All such appointments should be under the direct control of a board consisting of representative Government officials and members of the University.

I do not favour the suggestion often urged by some of our public men for the exclusion of Europeans from the ranks of the educational service in this country. Where exceptionally well-qualified men are required for special courses of advanced study, Europeans will certainly have to be appointed. But where competent Indian scholars are available, I think they should be given preference. For it is but natural that Indian teachers will work more zealously for the awakening of high intellectual aspirations among their countrymen than Europeans, however sympathetic they may be.

(*b*) Next to well-qualified teachers, among the essentials of a sound education, are well-equipped libraries and laboratories. Outside Calcutta, however, there are very few educational centres in Bengal where there are good libraries and laboratories to which our students and teachers can have free access. Our University has of late begun to take steps for the expansion of college libraries and laboratories, but most of them are still far below the mark.

(*c*) Even where well-appointed libraries and laboratories are available, they are not used by teachers or students as largely as could be desired. This neglect is to be attributed mainly to the existing university system under which teaching is unduly subordinated to examination. The success of a teacher is usually judged by the percentage of pupils he can pass through the examination, and he therefore concentrates all his attention on supplying their examination-passing requirements. Besides, there is such an extent of prescribed reading for him to cover within the assigned period that he can hardly find time to travel outside the prescribed course. Even if he can manage to overcome this difficulty and attempts a little free teaching, he fails to rouse the interest of the general students who look upon the passing of the examination as their goal and do not think it worth while to learn anything that is not required for that purpose. The best means, by which this defect in the existing system can be remedied is to grant some degree of freedom to the colleges in the design of their courses and to adjust the university examinations to the courses given by individual teachers—assuming that they will be always men of first-rate ability, thoroughly worthy of the trust to be reposed in them by the University. It is only under such conditions that the ideal of university training can be attained. The teacher can then encourage his students to read freely instead of pinning them down to a particular set of text-books and can vitalise their studies by fostering freedom of thought.

(*d*) Very few of the teachers employed in our colleges have sufficient leisure to carry on independent investigation in their special subjects. In fact, an earnest and active teacher finds his hands always so full that he has hardly any time left for self-improvement. All teachers are not fitted for the work of original research, but those who have proved their capacity for such work should be relieved of their ordinary routine duties in order that they may be able to devote themselves to the special work of advancing knowledge and stimulating their pupils to do likewise by their personal example and careful guidance. I am of opinion that every college in Bengal should endeavour to maintain on its staff as many research-workers as possible to serve as sources of inspiration to the rising generations. For the hackneyed work of supervising students' note-books and correcting answer-papers a separate set of tutors may be employed

BROWN, Rev. A. E.

(*a*), (*b*), (*c*) and (*d*). I consider that the points detailed are essential for the highest form of university training.

Under the existing system there can be little or no freedom of teaching or study and there is no encouragement to a teacher to pursue any independent investigation. Whenever a teacher ventures to touch upon any point not included within the syllabus he is often openly informed of the fact by his students and in any case the immediate falling off of interest in the lecture is too obvious to pass unnoticed. Further the students have such an obvious difficulty in "cramming" the course set that the teacher hesitates to burden them with anything that is in the least degree outside this.

CAMERON, M. B.

The question gives by implication some of the main outlines of a high ideal of University training but before such an ideal can be fairly applied there seem to be certain further implications underlying the various sub-questions which need to be brought out to clear view and duly considered.

(*a*) It seems to be implied that the men of first-rate ability and recognised standing in their subjects have both the will and the ability to teach; that they have all the patience and imaginative sympathy this connotes as well as the self-denial to turn aside from their own proper studies in order to interest themselves in the work of others and supervise it.

Upon this it may be remarked that while professors have two-fold functions as teachers and as investigators, it is not always the case that ability in one direction is accompanied by ability in the other. Again, limitations of time and place bring in a kind of antagonism between these two functions so that not infrequently the one can prosper only at the expense of the other.

It seems also to be assumed that the securing of the personal guidance of the teachers of first-rate ability and recognised standing is a comparatively simple matter: but the amount of personal guidance which is possible rapidly diminishes as the ratio of students to teachers increases. To keep it in a proportion small enough to make the personal contact reasonably efficient, means comparatively few students to each teacher. This is a costly arrangement. The nearer the ideal we get in this direction, the more expensive becomes the education. All discussion of practicable improvement in Indian university education has to take account of the fundamental fact that Indian students are as a rule not too well endowed with money. There is danger in using too freely analogies from English education where a higher rate of expenditure can be assumed. Yet even in England this consideration of cost together with the consideration next to be mentioned makes the ideal of 'personal guidance' one that can only be applied with considerable caution.

It seems further to be implied that it is enough for students to be placed under the personal guidance of the teachers of first-rate ability and recognised standing. This, however, may be doubted. The students must themselves have advanced sufficiently far to enable them to get into some sort of real contact with the teacher. This limitation operates to a greater or less degree everywhere. Even in the most highly developed universities of Europe and America provision has to be made not only for the honours schools and the students qualified to enter them, but also for the pass degrees and the great mass of students who have not advanced sufficiently far to get into contact with a scholarship unless they are sedulously and laboriously taught.

In discussing university constitutions it is only too easy to let the mind be preoccupied mainly by the vision of the ideal or at any rate to consider as *the* University, only those parts of it which most closely approximate to the ideal, ignoring the fact that every actual university finds it necessary to be somewhat composite in character and to include pro-

CAMERON, M. B.—*contd.*

vision not only for those students who are competent to learn from the teacher who is primarily an investigator but also for those other much more numerous students who are not so competent and for whom teachers must be provided who are primarily teachers, not investigators.

Another mistake only too easily made in this connection is to forget that the highest part of the University can only be really flourishing and healthy where it is a natural outgrowth of the lower. The higher species of study prospers only in proportion as it is related to a real demand created by the success of the lower and less advanced studies.

I am often inclined to suspect that both mistakes have frequently been made in much of the talk about university 'reforms' in India in recent years. On the one hand, there seems to me to have been a tendency to disparage unduly by comparison with the work of colleges elsewhere and occasionally even with the work of the honour schools, the work being done in the colleges of India. On the other hand, there has been a tendency to think that real improvement and advance can be made simply by importing the experts whatever the cost. The latter course has, it is true, the advantage of being an impressive kind of activity. It looks well in statistics of progress and it furnishes effective answers to those who doubt the good-will of authorities in the matter of the advancement of higher education. One may welcome whole-heartedly the disposition to spend in this direction, while still having doubts as to whether the generous effort in the way of money has been backed up by an equally generous effort in the way of thought in fully considering how best the money could be employed.

Another phase of the same kind of mistake noted above appears in a tendency to lighten the actual teaching work of the more able part of the college staffs in the interests of research. Something, perhaps much, might be said for this if, on the one hand, care were always taken that the quantity and quality of the teaching power left, were not allowed to suffer and if, on the other hand, the change in method of employment were made so frankly and definitely as to lay a clear and unmistakeable obligation on those concerned to issue programmes of research and regular memoirs of progress made, such as would inspire and stimulate all connected with the college in which they work. Referring to the latter proviso one might say that with the change made in a half-hearted manner there may be just enough teaching work left to serve as a plea for meagre and tardy results, and in reference to the former, it would be interesting to know if in the more adequately equipped colleges to-day as much of the actual teaching work is in the hands of the most expensive part of the staff as it was (say) twenty years ago. There is no doubt that the need for the teaching is just as great. But the purpose of my general remarks is not so much to criticise recent tendencies in university 'reforms' as to lead up to my point that in the case of no university, can the ideal, outlined in part in this question be applied without very considerable caution. Hence, *à fortiori* in the case of Indian universities; even more careful account must be taken of the very serious limitations which determine the comparatively undeveloped and very composite constitution which is all that can at present be achieved in the way of university organisation.

The first very serious limitation in India is the student. No one can like him better than I do or admire him more. He is keen, intelligent, industrious, docile and far more responsive to the sympathetic teacher's efforts than any students I have known elsewhere; but considered in respect of equipment for higher studies he is very heavily handicapped. He is very young. The age of Matriculation is 15 or 16 as against 18 or 19 elsewhere. Then his training has been in an Indian secondary school and though great improvements are being made in staffing and equipping these schools, there is still very much that remains to be done before they can at all compare with the schools in Europe or America that prepare students for the colleges. I would suggest that for purposes of comparison, returns should be obtained showing:—

(i) The proportion of graduates on the staffs of Indian secondary schools.
(ii) The proportion of *trained* graduates to all the other teachers on the staff.

These figures compared with corresponding figures for secondary schools in Britain would throw considerable light on the stage of development reached here. In this connection it should be borne in mind also that a very much smaller proportion of the good graduates than in Britain choose the teaching profession. Testimony on this

CAMERON, M. B.—*contd.*

head may be obtained from the training colleges which deal with graduates only but it can be evidenced also by all who have had much college experience in India. But the most serious handicap of the Indian student is the intellectual atmosphere which he has to breathe. I need not say that no disparagement of the Indian intellect is implied in this statement. What I refer to is simply the outcome of well recognised sociological conditions peculiar to India and, more especially to India in the mofussil, at this stage of her progress. I can only refer to them here in the briefest possible manner. There is:—

(i) The great mass of illiteracy all round. I am not speaking here of illiteracy in the student's own immediate circle of relations and friends, but of the illiteracy among those whom personally he may not know at all. It would be interesting to trace out some of the subtle pervasive ways in which this great mass of illiteracy is operative as an influence, not only on the student (though he perhaps is most affected), but also to a greater or less extent upon all who have to live and work in India. This however, cannot be done here. Suffice it to say that the general effect is a sort of aridity or sterility which is not favourable to normal many-sided intellectual growth.

(ii) There is the fact that even when literacy is present it is usually a one-sided affair, hardly as yet affecting *women* to any appreciable degree.

(iii) Only too frequently yet is the student an isolated unit in his family, his social circle or, it may be, even his neighbourhood.

(iv) The modern methods of study with their call for the free and critical exercise of individual thought are not yet in undisputed possession of the field. The older methods relying more upon authority and memory are still in vogue in certain lines of study. Part of a university course may be pursued according to the one method and part according to the other. Even if his subjects take the student beyond the older method, that method may be still powerfully operative as a social tradition.

A second great limitation in applying the test of the ideal university in India lies in the fact that at this stage of India's progress, what is chiefly required of the university professors and lecturers is that they should be capable and inspiring teachers rather than independent workers keen to maintain their standing in their various subjects. This follows at once from the inadequate mental preparation with which the students enter upon university work.

The third serious limitation has already been touched upon when it was pointed out above that it is not very practicable in India to aim at such close personal guidance as in England because the expense involved is too great for a country where the average income is so much lower.

(*b*) I have no doubt at all as to the wisdom of generous expenditure on libraries and laboratories. These are essentials of university education and must be provided for along with other essentials, but with a careful regard to the proportion which best makes for the efficiency of the organisation as a whole.

(*c*) With regard to the remark that there should be a large degree of freedom of teaching and of study, I would only remark that it is not my experience in Allahabad University that there has been any reason to complain of undue restrictions on teaching or study. The courses present many options, especially in the higher stages of study and the constitution of the University is such that if a teacher is strong enough to wish to strike out a line of his own, he is pretty sure to be strong enough to induce the University to find a place for his course.

(*d*) My views upon the question of the teachers having sufficient leisure to pursue independent investigation in their own subjects will probably be sufficiently evident from much of what has been said above. For the present I lay the main stress upon teaching. I do not think, however, that I am altogether excluding the possibility of independent investigations being carried on. The impulse to research is largely born in a man and will have its way even in spite of obstacles. The investigator will more frequently make the leisure than the leisure the investigator. This is particularly the

case in India for many reasons which need not be specified here. And the constitution of our better equipped colleges and universities is perhaps free enough to enable arrangements to be made for setting comparatively free from teaching duties for the time, any one who has successfully entered upon a line of research promising enough to warrant the sacrifice.

On the whole, I should consider that the chief factor determining the number of professors of the type of the first-hand investigator required for university work, should be the number of students who are really highly enough qualified to be brought with advantage under their personal guidance. The provision in Allahabad seems to have been in excess of the demand and where funds available for higher education are so strictly limited the mistake is the more to be regretted.

CHAKRAVARTI, BRAJALAL.

The object of university education has to be clearly defined and the claims of moral and physical culture have to be recognised.

(*a*) Personal guidance by the teacher is required first for the development of the character of the student and for this purpose, in the beginning, the personality of the teacher should be preferred to his ability in a particular subject. At a later stage, after the character has been sufficiently formed, the student can devote himself exclusively to the pursuit of knowledge, and at that time preference should certainly be given to a teacher of first-rate ability.

(*b*) Good libraries and laboratories are certainly useful, but for purposes of teaching these at best are mere accessories and their importance should not be exaggerated. A laboratory required for the purpose of supporting commerce or industry has to be fully developed, but so complete a laboratory is not absolutely necessary for the purpose of the teaching of science. It is to be borne in mind that the greatest masters of science can perform their work and enrich the world by their discoveries without the assistance of large laboratories, and it is a matter for careful consideration how far a fine laboratory does help the culture of the imagination which is the essence of all progress in science. Similar considerations arise also in regard to libraries. Really useful books are not many in number and much reading does not necessarily mark the progress of the intellect.

(*c*) For the general purpose of education freedom of teaching and study is certainly desirable. In so far, however, as common examinations of the students by different teachers have to be regarded as a necessity, this freedom will have to be curtailed for the purpose of securing uniformity of work.

(*d*) Teachers should be allowed leisure for independent work, but a proper proportion should be maintained between the work of research and the work of teaching, the latter being the principal function.

The ideal cannot be attained without modifications of the existing system. The intellectual training of the student has to be carried on simultaneously with the development of his physical and moral life and with sufficient regard for his economic position in the world. The other aspects of education cannot be taken in hand by the University, inasmuch as one uniform system of training would not suit the various requirements of the many races and creeds that constitute the population of Bengal. To answer this purpose there should be denominational schools and colleges which, while working under the general guidance of the University in the matter of intellectual training, might provide training in other matters suitable to the special needs of the communities concerned.

A subsequent stage of post-graduate studies may be taken in hand by the University, and there it may be possible for teachers and students of all denominations to come together. A number of denominational universities would disturb the uniformity of the standard of intellectual education, which, in the existing circumstances of the country, should be maintained.

CHAKRAVARTI, CHINTAHARAN—CHAKRAVARTI, CHINTA HARAN—CHAKRAVARTI, Rai MON MOHAN, Bahadur—CHAKRAVARTY, NIRANJAN PRASAD.

CHAKRAVARTI, CHINTAHARAN.

The best form of university training requires:—

(*a*) That the students should be placed under the personal guidance of first-rate teachers of wide experience.

(*b*) That the teachers and the students should have access to well-appointed libraries and laboratories.

(*c*) That there should be a large degree of freedom of teaching and study.

(*d*) That the teachers should have sufficient leisure to be able to pursue independent investigation in their own subjects.

This ideal is gradually attainable in Bengal. Libraries and laboratories may be extended and improved year after year; more teachers may be appointed and general improvement may be effected in the institutions as time proceeds.

CHAKRAVARTI, CHINTA HARAN.

(*a*), (*b*), (*c*) and (*d*). The university training at its best involves the four general principles laid down in the question.

An attempt has been made recently to realise the ideal to some extent in the post-graduate classes of the University. But the very limited number of teachers of first-rate ability, the huge number of students in the affiliated colleges and the want of adequate resources of the educational institutions are some of the obstacles in the way of a complete realisation of the ideal. Lack of sufficient pay and prospects deters first-rate scholars from joining the teaching profession. There is very little freedom in teaching, which is unduly dominated by the requirements of examination.

CHAKRAVARTI, Rai MON MOHAN, Bahadur.

(*a*), (*b*), (*c*) and (*d*). There are rightly included in the functions of a University. They have not been yet attained in the Calcutta University.

(*a*) Teachers of first-rate ability and of recognised standing in their subjects are rare.

(*b*) Well-appointed libraries and laboratories do not exist. Those which exist can bear no comparison with the libraries and laboratories of Europe or United States, being hampered by small funds procured in driblets.

(*c*) Freedom of teaching and of study exist to some extent; but the rules of the University and of the Education Department require to be relaxed in various directions.

(*d*) In comparison with other walks of life teachers have fair leisure to pursue independent investigations in their own subjects. But they should be aided by large public libraries and laboratories, as they themselves are too poor to have any such of their own; and it may be added that real research workers are, in comparison with other civilised countries, too few.

CHAKRAVARTY, NIRANJAN PRASAD.

(*a*) In order to obtain the best training possible in the University it is essential that the students, specially those of the post-graduate classes, should be placed under the personal guidance of professors of first-rate ability and of recognised standing in their subjects.

(*b*) The students and the teachers should have free access to all the well-stocked libraries and well-fitted laboratories and to all other resources of learning

existing in the Metropolis. This method may not, however, be of any great advantage to the students of the intermediate and B. A. classes, most of the colleges being situated in places outside the University town and some in the interior parts of the province. But this system will be of no small help to the honours and the post-graduate students, in creating a powerful centralised teaching university in the city and by placing the advanced students directly under its control.

(*c*) It is also highly necessary for the benefit of the students as well as of the teachers that the latter should have some freedom in teaching their own subjects. A curriculum of studies should be framed by teachers in order to guide them in their lectures.

(*d*) It will not be a wise policy to confine the teachers to lecture work but they should be allowed sufficient leisure to carry out independent investigations in their respective subjects and also to help their students in carrying out original research. But it should be incumbent upon them to send reports of the progress of their research work to the University from time to time.

It is not possible for any university to attain the highest ideal within a very short time and with limited resources. This may be partly attained by keeping up friendly and sympathetic relations among the different universities, and thus gradually proceeding to the desired goal. An attempt of this sort has been made from time to time by the University of Calcutta by inviting expert educationists and eminent scholars of foreign and other Indian universities to give courses of lectures, for the benefit of the learned public, but unfortunately this practice cannot continue long for want of financial help.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

(*a*), (*b*), (*c*), and (*d*). My answer is in the affirmative.

The ideal is not attained at present, but is certainly attainable. A chief obstacle to the realisation of this ideal is the practical and studied isolation from the student community which the European professor maintain—with honourable exceptions. He carries a notion of his racial superiority to the class room and constantly bears in mind that his student belongs to a subject community. In this feeling there is hardly anything to choose between the I.C.S. and the I.E.S. The real remedy lies in handing over the entire management of education to the people.

CHATTERJEE, The Hon'ble Mr. A. C.

(*a*) Yes.

(*b*) Yes. If a technological department be organised, arrangements should be made for pupils, both during and after academic training to have access to workshops, factories, etc.

(*c*) Yes, provided that condition (*a*) is fully satisfied, but not under present conditions, when the teachers themselves are of very inferior ability as a rule.

(*d*) Yes, particularly in the case of the heads of each branch of study. Such heads should organise the work (in addition to personal research) and should have little to do in the way of actual tutorial work.

The ideal is not attained in Bengal now and will not be attainable without radical changes in the existing system.

So far, the aim of Indian universities has been, at least in practice, merely to turn out men for State service and a few learned professions. If this is the aim the standard indicated in this question cannot fairly be applied.

CHATTERJEE, Rai LALITMOHAN, Bahadur.

(*a*) (*b*) (*c*) and (*d*). Modern university training in Europe, at its best, certainly implies the four conditions mentioned. What is more significant, the training imparted in the *tols* of India, even in recent times, satisfied all these conditions except, of course, in the matter of well-appointed libraries and laboratories. The range of teaching in these *tols* was, no doubt, very narrow, but able teachers, proper guidance of students, freedom of teaching and of study and leisure existed. In these *tols* learning was bound up with religion as well as with the social economy and caste rules. The teacher was not only looked up to for his learning, but regarded with religious veneration. He was very independent and proud, but looked upon his pupils as his children. There were no rigid examinations. These conditions do not exist in the Calcutta University. Nor is it possible to bring them back as they were in the *tols*. In modern India education is chiefly utilitarian in its object. It is not so much the accomplishment of a gentleman as, in the *tols*, it used to be the accomplishment of a Brahmin. It is dominated by western ideals. It has spread over a much larger area and seeks still to spread. It is cosmopolitan and scientific. It is levelling to social distinctions. Yet, though our aims are those of the West, our past history is different, our social and political condition is different, our needs and requirements are but vaguely realised, our teaching machinery is just beginning to evolve. India, and Bengal more than any other part of India, is in a state of rapid transition. At the present time we have neither the right type of teachers, nor the right size of classes, nor the right basis of pre-university training. Our libraries and laboratories have much improved recently, but are not yet sufficient for deep research. Our colleges are so crowded that close personal touch or personal guidance of pupils by teachers is impossible.

Is the ideal attainable? Not for the whole of Bengal, at once, I think. But it is certainly attainable at selected centres, for example, in Calcutta and Dacca.

The form of university most suitable for this purpose I shall suggest in my answer to question 4. Most or all of the colleges outside the selected university areas will have, at the beginning, to be federated into an examining university, and this will mean that two different qualities of training will be imparted in Bengal. But, at the outset, this is the only practicable arrangement from which it would be possible to work up towards a general adoption of the superior type. The quality of education at the selected areas must be jealously guarded at all costs.

CHATTERJEE, P. K.

(*a*) Yes; so far as possible, university students should be placed under the personal guidance of teachers of first-rate ability and recognised standing. But this should be regarded rather as an ideal, because it would mean narrowing down the number of students in each subject in each class of a college, and I do not consider it desirable to limit the number of students suddenly in that way, as it is likely to check the advance of education in a populous and intellectual province like Bengal.

(*b*) Yes; the existing university system of advancing money grants to affiliated colleges for strengthening and expanding libraries and laboratories is likely to further this object.

(*c*) Freedom of teaching and study is likely to develope the special aptitudes of teachers and students, but courses of study should be more or less prescribed, as at present, in order to ensure some degree of uniformity of standard. So long as no better system of testing the ability of students than by examinations can be found practicable, uniformity of standards in the different courses of study is, in my opinion, a highly desirable thing.

(*d*) Yes; but it is difficult to lay down a general rule that so many hours' work in a week gives each teacher sufficient leisure for independent investigations, without considering the special needs and circumstances of individual colleges, especially their financial position. It might be desirable to give sufficient leisure to the teachers of a college, but this would necessitate the maintenance of a large staff of teachers, which many private colleges, depending upon fees alone, might be unable to provide.

CHATTERJEE, PRAMATHANATH.

(*a*), (*b*), (*c*) and (*d*). I consider that the ideal described here is an ideal which every university and every college should have in view.

In Bengal this ideal has not been attained, nor is it attainable for years to come for several reasons, the most important being the limited financial resources of the country and the comparative poverty of those who send their boys to college. The attainment of this ideal will be necessarily slow and gradual. The best course open to us is to take stock of existing materials and resources and to utilise them in the best way possible in order that the standard of college education may be raised to a higher level.

CHATTERJEE, RAMANANDA.

(*a*), (*b*) and (*c*). Yes.

(*d*) Yes; but teachers who claim leisure to pursue independent investigation in their own subjects, must support their claim by original work of recognised merit. Some of our Indian professors have done original work, in addition to, and in spite of, heavy teaching duties,—duties heavier than those performed by their higher placed and more liberally paid European colleagues. My suggestion is that only those who have already done original work of recognised merit or promise be given leisure to pursue independent investigation, and that they be required to give a yearly account of what they have done during each year. Money is not sufficiently cheap in Bengal to be thrown away on showy idlers.

The ideal referred to in this question is not attained in Bengal, but it is attainable though not under the existing system.

I again lay stress in this connection on external degrees. In London University, where the system of external degrees originated, those who take them cannot claim to have received the ideal university training but nevertheless the system has continued there up to the present, and the Haldane Commission in their final Report have recommended its retention. They say in paragraph 394 of that report that when the London University is enabled to offer the highest university education at a really moderate cost, as part of a national policy, which will make all the universities more accessible to the poor but capable students, the demand for external degrees will decrease; meanwhile they must continue, and the University of London, as their originator, must remain responsible for their award. The people of Bengal are neither more wealthy nor possessed of more knowledge than the people of England. So, what originated in and is still considered necessary in the capital of England, can surely be adopted temporarily in Bengal. It is necessary and good to strive after the best in education. But what is somewhat lower than the ideal has its uses for those who cannot avail themselves of what is the best. In times of famine, while the favourites of fortune may continue to have ideal dishes, those who are not so blessed are nevertheless sustained and kept fit for work by what is not ideally the best food. In our country there is knowledge famine; and, hence, for a great many of our seekers of knowledge, what has served the purpose of many in England will undoubtedly prove helpful.

Though our colleges are not what they ought to be, we find it difficult under the present regulations of the University to start a sufficient number for the growing number of

CHATTERJEE, RAMANANDA—*contd.*—CHATTERJEE, SANTOSH KUMAR—CHATTERJEE, Rai Bahadur SARAT CHANDRA—CHATTERJEE, SATIS CHANDRA.

students. When, as suggested, successful efforts are made to make the colleges approximate more nearly to the ideal, it will be still more difficult to increase the number of colleges, though at the same time the demand for knowledge and degrees will continue to grow. Under the circumstances, my suggestion deserves serious consideration. In all civilised countries, men and women, whether graduates or not, derive a large part of their knowledge from books. This is a valuable part of their mental equipment. The knowledge of those who receive external degrees is not the less valuable because it may have been for the most part derived from books. And, moreover, at present most of those who obtain Calcutta University degrees (and other university degrees too) are really indebted for the greater part of their knowledge to books, the attendance at college and lectures being somewhat of a formality. Yet under this system knowledge has spread in the country, and many of our ablest men have had only this kind of college and university education. There may not, therefore, be any great harm infrankly recognising a system of external degrees when for years and years we have really had it in our midst in substance under the *semblance* of internal degrees obtained under a sort of education in college and university. There is no wisdom in fighting against a name.

Without a system of external degrees like that at London, the realisation of the university and college ideals in Bengal is sure to deprive a large number of our poorer students of higher knowledge. That would be a great evil. We would rather have third-rate education for all than the very best for only a few. But should my suggestion be accepted, all capable aspirants would have some education and a considerable number would have the very best.

CHATTERJEE, SANTOSH KUMAR.

Please see my reply under question 1. Page 52 above.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

(*a*) Yes.

(*b*) Yes. Also to factories and workshops, both state and private, museums, agricultural and demonstrative farms, forests and mines in the case of technological students.

(*c*) Yes, but the teachers should be men of first-rate ability and of recognised standing in the subjects they teach.

(*d*) Yes, and particularly so in regard to the higher class of teachers; *e.g.*, the senior professors of physics should be given ample leisure to carry on research work in physical science so as to be able to create an atmosphere and to inspire the assistant professors lecturers and the students with the spirit of his work.

The ideal is not attained, but is attainable only if the existing system is considerably modfied. The standard cannot now be applied as the activities of the universities in India have so far been confined to the very limited sphere of holding examinations for a few professions and certain administrative and clerical services.

CHATTERJEE, SATIS CHANDRA.

(*a*), (*b*), (*c*) and (*d*). It is indeed desirable that university training should involve all that has been said as regards its functions in this question.

This ideal, I think, is quite attainable in Bengal, and it is being attained more and more under the new regulations of the Calcutta University. There are, however, many improvements to be made before the ideal has been completely attained.

CHATTERJEE, SRIS CHANDRA—CHATTERJI, SUNITI KUMAR—CHATTERJI, MOHINI MOHAN.

CHATTERJEE, SRIS CHANDRA.

(*a*), (*b*), (*c*) and (*d*). Yes, I do consider the functions of a university involves all the four conditions noted.

I do not think these conditions are available under the present university system for more reasons than one. A fulfilment of these conditions would entail a heavy outlay on the public purse and I do not think that the money for these purposes is actually available.

In my answer to question 1, I have referred to the absence of freedom of teaching and study. I think the personal guidance of teachers is very important. As a matter of fact in the *tols* personal guidance by teachers formed a very important part of the course of learning. But at present teachers with big classes do not attempt to give any personal guidance. Sometimes—and specially is this the case in regard to European professors—they are prevented from evincing any sympathy for the students. Without sympathy on the part of the teachers and confidence on the part of the student it is impossible to expect good results. How both of these things are lacking is best evidenced by the breaking out of a spirit of lawlessness among the student community. I hear now-a-days of assaults on professors (the assault on Professor Oaten in the Presidency College may be mentioned). I have heard of some European professors—some of them regarded in a very high light, abusing students as coolies or as Boers. Now, under these circumstances I shall not be surprised if students break away from the traditional Indian loyalty to teachers and give vent to their wounded feelings. Now there are again some teachers who come to their students with preconceived ideas and imagine themselves a body of Spartans in a country of Helots. I would, therefore, suggest that personal guidance should be not only that of men of first-rate ability, but also of sympathy for those among whom it is their lot to work.

CHATTERJI, SUNITI KUMAR.

(*a*) Yes; but under the present conditions it is absolutely impossible to place every single student under the personal guidance of a teacher. However desirable an ideally perfect education for a chosen few may appear, I would postpone it if the general spread of education stood the risk of suffering in consequence. The end of all reforms should be to maintain the spread of education and to improve its tone as far as practicable. No new experiment need at present be tried since it might lead to the restriction of higher education to a limited few.

(*b*) Certainly, if we can afford it.

(*c*) Yes. But in all subjects there should be a syllabus of a general nature, and the system of examination should be modified accordingly. The comparatively high percentage of attendance at lectures which is now obligatory should be reduced to as low a limit as possible.

(*d*) Yes. Special leisure should be given to people who have done work of recognised merit or have shown promise of good work. But professors generally should have ample leisure and opportunity to improve their capacities.

The question resolves itself ultimately into one of funds. The ideal presented by the questions is attainable if funds are available for the adequate number of teachers and for other needs.

CHATTERJI, MOHINI MOHAN.

(*a*), (*b*), (*c*) and (*d*). I share the view of the functions of a university described in this question.

I do not think the ideal is, or can be, attained under the existing system in Bengal or by any system which does not completely separate the problem of education from the problem of employment.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH—CHAUDHURI, BHUBAN MOHAN—CHAUDHURI, HEM CHANDRA RAY—CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

(*a*), (*b*), (*c*) and (*d*). I do, but I want to add to the qualification of teachers sympathy for students and a feeling of companionship with them.

I do not think the ideal has been attained, but I believe it is attainable. It means modification of the present system, and a candid recognition of the principle that the nation must have its progressive hopes stimulated and needs met.

CHAUDHURI, BHUBAN MOHAN.

The ideal set forth as to the functions of a university is not attained or attainable under the existing system in Bengal, because there are very few teachers of first-rate ability, the students are not under the personal guidance of the teachers, there are very few well-appointed libraries and laboratories, there is no freedom of teaching and of study and the teachers have very little time to pursue independent investigation. The ideal is realisable in respect of (*b*) and (*d*), but not, wholly because its full realisation is possible only in a residential university.

CHAUDHURI, HEM CHANDRA RAY.

(*a*) Yes, but I should add that teachers should be not only men of "first-rate ability and of recognised standing in their subjects," but they should be acquainted with Indian conditions.

(*b*) Yes.

(*c*) Yes.

(*d*) Not all teachers, but only those who show a capacity for research.

So far as post-graduate teaching is concerned this ideal has been attained to a certain extent. Teaching in other departments may also be conducted on similar principles.

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

(*a*), (*b*), (*c*) and (*d*). I share the views represented in this question as to the function of a university, but the ideals set forth are more applicable to a teaching than to an examining body.

The standard indicated cannot be fairly applied to the Calcutta University.

Firstly because there are very few teachers of first-class ability.

Secondly, because the teaching staff is inadequate to the increasing number of students.

Thirdly, the pay and prospects for the teaching staff are very inadequate so that they cannot devote their whole attention to the pupils committed to their charge.

Fourthly, the selection of the teaching staff is not made from among those who have adopted their subjects as their profession in life and have attained or are at least giving promise of attaining very great distinction. The existence of a superior educational service manned almost entirely by Europeans appointed more from racial consideration than that for ability is also a great bar.

The teaching now-a-days is shaped more with reference to the need of examination than with the object of giving the students sound knowledge of the subject taught.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY—CHAUDHURY, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY.

(*a*), (*b*), (*c*) and (*d*). Yes.

Such an ideal cannot fully be attained at present: the defect, however, does not lie so much in the system as in the poverty of the students on the one hand, and in the unwillingness of Government to place adequate funds in the hands of the University on the other. Under the circumstances it should be our aim to devote our resources more to the spread of education among the largest number than to the giving of the highest and best training to a few. Diffusion of high education is considered and should for a long time more be considered, a more desirable and necessary thing in our society than imparting the best training to a few.

(*c*) The present system of university examination and the huge number of text-books required to be taught and studied in each subject are great drawbacks in the way of the exercise of due freedom in teaching and study.

(*b*) It must, however, be said that although it is quite true that teachers should have sufficient leisure to be able to pursue independent investigation in their own subjects—yet it must not be forgotten that independent investigations should not be allowed to be pursued to the neglect of the actual work of teaching for which teachers are employed.

CHAUDHURY, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.

(*a*), (*b*), (*c*) and (*d*). Yes.

The standard cannot fairly be applied to the university system in Bengal for the following reasons:—

(*a*) At present there are only a handful of men here and there who can strictly be called first-rate teachers. The majority of them are men who ought to be school masters rather than professors. Whatever they are, the present system does not bring the students and the teachers in close contact with each other. This is a defect incidental to a system of education which cares only for examination.

(*b*) Excepting at the university town there are hardly any libraries which may be considered as well appointed and even in the university town they are confined only to a few select colleges, the library attached to the University being available only to the limited class of students who take to post-graduate study. There is no provision to compel the students to use the libraries. There are no special classes for library work as is the case in the Madras University. The students are left to themselves and, as is natural, under the circumstances they pick out a few books here and there aimlessly without any special reference to the nature of the work they are engaged in.

(*c*) Under the present system there is no freedom of teaching or of study. The University prescribes certain courses and both the teachers as well as the students will have implicitly to go through them. The teacher even if he has the inclination to go beyond what is prescribed, has neither the necessary time nor the right sort of students to take initiation. The result is that the hard and fast rules of the University, act with a deadening effect on the intellectual and critical development of the students and in a majority of cases prevent the teachers themselves from improving their learning or keeping up their scholarship.

(*d*) Except in rare cases, the teachers are overburdened with a number of subjects. They cannot pay sufficient attention to any one particular subject, and naturally they are efficient in none. They cannot command the necessary leisure to pursue independent investigation in any particular branch of learning. Even the university professors are, as was evidenced in certain recent cases, subject to undue interference on the part of laymen and so much so that they have to hurry over their courses as hastily as they can.

CHAUDHURY, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur—CHOUDHURY, Rai YATINDRA NATH—CHOWDHURI, DHIRENDRANATH.

Unless the existing system is radically reformed, the University will continue to be nothing else than a graduate-producing machine at its best, selecting candidates for Government service, and professors of first-rate ability from outside India will not find any genuine attraction to accept chairs under the University.

CHOUDHURY, Rai YATINDRA NATH.

(*a*) As it is impossible now to restore the ancient custom of Brahmacharya, I think it is not possible to place all our college students under the personal guidance of teachers of first-rate ability; consequently, I would suggest that, our research students and post-graduate students should, so far as it is possible, be placed under the immediate personal guidance of teachers of first-rate ability and character.

(*b*) It goes without saying that the teachers and students alike should have access to well-equipped libraries and laboratories.

(*c*) There should be *partial* freedom of teaching and of study for the students who would go in for graduate examinations and *complete* freedom in research and post-graduate studies (under separate groupings of subjects to be carefully prepared).

(*d*) The teachers appointed to help the research and post-graduate studies and those who would receive studentship as mentioned in clause (*a*) in the latter part of my opinion on question 1, should be relieved of all other duties, except helping the students mentioned there. They should not be requisitioned to deliver any lectures in our colleges. This will afford them ample leisure to pursue independent investigation in their own subject.

The ideal here marked out is not attainable under the present system because there are no teachers told off separately for the purposes and because there are very few professors of first-rate ability now-a-days.

CHOWDHURI, DHIRENDRANATH.

(*a*), (*b*), (*c*) and (*d*). Yes, I consider them to be the functions of a university. But there are many practical difficulties in the way of the existing system of education in Bengal and, for the matter of that, in the whole of India for the realisation of this ideal.

(*a*) The method by which the teachers are selected is a bar to the realisation of this ideal. Many extraneous considerations, racial and political, weigh more than the strictly education tests. The proficiency indicated by a university degree is in many cases of nominal character. If the tests of ability, experience and character—the minima of equipment required of a teacher under whose personal guidance the students should be placed in order to give them the full opportunity of obtaining the highest training are strictly applied to those who are engaged in teaching, I do not think a very respectable percentage would come out well. Moreover, the low pay in the department does not attract the ablest men available; that "man doth not live by bread alone" is a noble maxim and a nobler one can scarcely be had, yet man as man must keep his body and soul together before aspiring after anything higher.

(*b*) Outside Calcutta, there are few libraries and laboratories which are of great help to the teachers and the taught. Besides, the objects that weigh with both are not great inducements to the use of libraries and laboratories, the students' aim being to pass the examinations. So they select their subjects, not because they would get learning in any particular branch of knowledge, nor that their interests have been aroused in that particular branch, but because a particular subject would help them in passing an examination more easily. Therefore they take little care for the lectures they have in the class. They attend them not because of the

information they furnish, but because of the percentage of attendance which is necessary to enable them to a place in the examination which they must pass and that they can pass by memorising facts they gather from notes with which our educational bazar overflows. Consequently the students never prepare for the class lectures. The professor has mostly to deal with dull vacant expressionless faces. By far the largest number of students choose logic in the I.A. examination because rightly or wrongly they think it an easy subject, and it has really been made easy by notes for a boy of the average amount of memory. But are they ready for any lesson in it? The professor will thank his stars if 10 per cent. of them have any nominal acquaintance with the sciences from which he is to draw his examples to illustrate his lessons in inductive Logic. Such an ordinary phenomenon as the increase or decrease of the moon's phases has never excited their curiosity, nor do they feel any enthusiasm when it is explained to them. Yet they must be given lessons on deduction or induction or the place and value of hypothesis in inductive investigation. And all the blame should not be laid at their door. They do not require real knowledge for passing the examination and the University will not refuse them the certificate if they pass the examination without it.

(*c*) The freedom of teaching and of study alluded to has been much increased by the present wide scope of selecting subjects as well as of prescribing a syllabus of study and not of books; but in an examination-ridden university where subjects are chosen for easily passing the examination and not studying the subject, this freedom has increased the number of passes and not advanced the cause of real education. As for the professor, he has to cover a wide field in a prescribed number of lectures on the one hand and to supply the examination-passing needs on the other. So he has little freedom for real education. Even if under such unfavourable circumstances a professor makes an attempt at imparting real education by, for example, the Socratic method of question and counter question he will find himself in an alien element, because students think it needless waste of time and energy as they do not require it for passing the examination. Teaching is a game at which both the teacher and the taught must play.

(*d*) With 18 lectures a week, the less said about leisure to pursue independent investigation in their own subjects the better. For a conscientious man, to prepare 18 lectures a week would tax his time and energy to his utmost capacity. And there is no proper impetus either. Their services are retained to prepare the students for the examination and that they do. The freedom of teaching has no scope and the independent investigation no incentive.

So from the above remarks it is quite clear that in my humble opinion teaching is unduly subordinated to examination.

COCKS, S. W.

(*a*), (*b*), (*c*) and (*d*). I have in my reply to the first question given my assent to the four propositions stated here.

I am not sufficiently well acquainted with conditions in Bengal to express any opinion of value on the second part of the question.

COLEMAN, Dr. LESLIE C.

(*a*) Certainly.
(*b*) Certainly.
(*c*) Yes.
(*d*) This is, I think, a matter of prime importance.

COVERNTON, The Hon'ble Mr. J. G.—CROHAN, Rev. Father F.—CULLIS, Dr. C. E. ..

COVERNTON, The Hon'ble Mr. J. G.

(*a*), (*b*), (*c*) and (*d*). My answer to all the sections of this question is (from the abstract standpoint) in the affirmative.

But I do not think that the ideal indicated is either attained or attainable under the existing system in Bengal. The views that I have submitted under question 1 contain my reasons for this conclusion. The present conditions might be improved to a certain extent by importing really high class teachers from abroad and if obtained in sufficient numbers and given a sufficiently free hand, they might do much to improve the existing methods and standards. But, I do not think that this would be sufficient. I adhere to the view expressed above that the simplest and the surest means of remedying the present situation is rather to send Indians to get proper training in the West than to bring out Europeans to give Western training in the East. It may be necessary or desirable however at the outset to combine both methods, but the former should be employed to a much larger degree than the latter. With provision for the supply of adequately trained teachers must go provision for adequate equipment and, as has been said above, this means much larger expenditure. It is possible, however that, if the methods, classes and standards of universities were reformed as indicated and, if, as the necessary basis of this reform, the secondary school system were extended and improved, a smaller number of students would proceed to the University, since boys, would be better qualified to enter other careers on leaving school and there would be less inclination to rush into a university course as the only passport for Government service or for assured lines of livelihood. Such a reduction in numbers would of course tend to reduce the potential expenditure.

CROHAN, REV. FATHER F.

To better attain the ideal set down, we are of opinion that the teachers should be men who give themselves whole-heartedly to their work, and whose interests are not divided between teaching and other avocations. It is, moreover, necessary to infuse some more enthusiasm for education into the students themselves. We are afraid, that very little desire for real education exists among our undergraduates, while it is not apparent that even the best teachers are anxious to bring the students under their personal influence, in any appreciable degree. To alter the existing state of things will be a task of some difficulty.

CULLIS, Dr. C. E.

(*a*), (*b*), (*c*) and (*d*). I agree with the view taken of university training at its best.

It would be attainable in Bengal so far as the quality of the students and teachers is concerned. Its attainability is therefore chiefly a question of finance.

It must be recognised that such training is costly and has to be paid for; and that a very large share of the cost must be borne by the students themselves, who profit by it. This share can only be reduced by public benefactions and by contributions from public funds, both of which can fitly be expected because of the advantages which the community derives from the provision of such training.

At present an insufficient share of the cost is defrayed by the students themselves. Ordinarily, every student who enjoys university training should bear his due share of the cost. Poverty does not constitute a claim for free university training. Financial assistance should be given only to such students as are deficient in means, and have also proved themselves to possess exceptional ability.

If university training is given to all students desirous of it irrespectively of their means something much short of the best must be given, unless the community is prepared to pay a big price for it.

CUNNINGHAM, The Hon'ble Mr. J. R.—DAS, Rai BHUPATINATH, Bahadur.

CUNNINGHAM, The Hon'ble Mr. J. R.

(*a*), (*b*), (*c*) and (*d*). I incline to consider that university training at its best involves all the conditions specified.

The ideal indicated is certainly not attained in Bengal and Assam, probably—as becomes an ideal—is not fully attainable anywhere. There cannot for instance as a practical measure be any preliminary selection so exclusive as to prevent the admission to a university of a fair proportion of students who would benefit more by the discipline of the parade ground than the liberty of the study; and as regards the professoriate there is everywhere the difficulty of the academic temperament, the tendency to seclusion from the world of affairs from which the University ought to take its life. These considerations are for obvious reasons less dominant in Europe than in India where the University has, on the one hand to take over much of the work of the secondary school and, on the other, to rely upon teachers who in certain subjects of the course cannot be expected to attain to any standing. These are not necessarily, however, continuing conditions, and I can see no reason why such an ideal should not be set up as a goal of attainment if the pace of the advance is adjusted to general progress. To attempt to enforce such principles at present for general application would be at once to discredit the ideal and to encourage reaction. The reasons for holding this view will be plain from the preliminary note. In the main they are:—

(i) The disproportion between the resources available for university work and the numbers who claim and cannot be denied a university training.

(ii) The fact that the University is the sole avenue to respectable employment, a university education it is the hall mark of social standing—involving the University in the training of a large number of students ill-adapted for higher study.

(iii) The feebleness of secondary education.

(iv) The fact that a new system of life and thought has to be assimilated and that a foreign language is the vehicle of learning.

(v) The vocational aspect assumed by all departments of study.

(vi) The political situation.

DAS, Rai BHUPATINATH, Bahadur.

(*a*), (*b*), (*c*) and (*d*). I am in general agreement with the ideal outlined in the question. The attainment of the ideal may be financially impossible. The country is poor and the number of students seeking university education is already large and is increasing every year. There is a growing desire for university education among the poorer classes, many of whom have been slow to avail themselves of the educational facilities obtainable in the country. I beg to suggest an improvement in the existing system. At present, the teachers see little of the students outside the lecture-room; but some chance of the students coming under the guidance of the teachers may be given by dividing the total number of students into several groups and assigning each group to one of the teachers, who will be called "tutor" to a particular group of pupils. The tutor will set apart two or three hours in the week when his pupils may come and consult him not only in matters relating to their studies, but in other matters also in which they may stand in need of advice from a senior. In assigning pupils to a tutor, the principal or better a committee of professors (teachers in the college) appointed for the purpose, will have regard to the subject taught by the "tutor," the general principle being that a tutor should have for pupils such students as he meets most frequently in the class.

(*c*) With the colleges scattered all over the country and teachers of different shades of qualifications, it is not possible to allow much freedom of teaching. A carefully drawn up syllabus up to the B.A. and B.Sc. honours standard and an outline of the requirements of the M.A. and M.Sc. examination together with a list of recommended text-books to indicate the scope of the subject is

required for the guidance of teachers and students alike. This is the more necessary as few of the teachers are represented on the boards of studies or the examining boards. Of course, it is open to every teacher to modify the syllabus by enlarging upon it or by supplementing it in other ways to suit the capacity of his students.

DAS, Dr. KEDARNATH.

(*a*), (*b*), (*c*) and (*d*). Yes.

But the ideal is not at present attainable in Bengal inasmuch as first grade teachers will not care to come out to India.

DAS, SARADAPRASANNA.

(*a*) It is desirable that all post-graduate students should be placed under the personal guidance of teachers or tutors of first-rate ability. This ideal is not attained at present, but it may be attained by reducing the strength of the post-graduate classes. Those graduates who wish to become pleaders or munsifs ought not to swell the post-graduate classes; but they might qualify themselves for the B.L. and the M.L. degrees. The University ought to lay down that no student shall be permitted (in the manner they are actually permitted now) to attend a course of lectures for the M.A. or M.Sc. degree, simultaneously with a course of lectures in law. The High Court in making appointments to the Judicial branch of the Provincial Civil Service should not directly or indirectly insist on a higher general qualification than the B.A. honours degree.

DAS GUPTA, HEM CHANDRA.

(*a*), (*b*), (*c*), and (*d*). I share the view indicated in this question, but I think that in the existing system in Bengal this ideal is neither attained nor attainable, and for the following reasons:—

(i) There are not many teachers of first-rate ability and of recognised standing in their subjects in this university.

(ii) *Library.*—Many of the libraries of the colleges affiliated to the University have a fairly good stock of ordinary text-books, manuals, and books of reference, but are very poor in journals, magazines and other types of periodicals. This defect should be remedied, and for this purpose there should be an inter-collegiate arrangement of buying, borrowing, and lending these periodicals as it is not possible for any single institution to subscribe to all the publications of the learned societies of the world. The University library is also poor in its stock of periodicals, but I think that the time as now come when the University can start the publication of periodicals embodying the results of investigations carried on by its professors, lecturers, and advanced students and, then, by way of exchange, it will be possible for the university library to have a very rich stock of journals, magazines, etc., and thus keep the teachers and the students alike abreast of the time. As far as my information goes most of the college libraries are kept open during the regular college hours only and on account of this, the students are precluded from using the libraries to the best advantage. Libraries should be kept open from 6 A.M. to 8 P.M., and students should be encouraged to use the library as a reading room. Another defect of the college libraries is the want of competent librarians. At present the duties of a librarian are usually assigned to a clerk with a very insufficient education. This state of things is extremely undesirable. Men with good education and of wide reading should be appointed as librarians.

Among other qualifications the librarians must be linguists, and the pay attached to the post should never be less than what a professor in a college receives.

Laboratory.—The college laboratories are now well-housed and fairly well-equipped for the standards they are affiliated in. But on account of the insufficient number of teachers and in many cases, owing to insufficient accommodation the students cannot at present utilise the laboratory as they should. Some definite periods are usually specified for the practical classes, but students find it extremely difficult to work in the laboratory during any unspecified hour. There are usually two reasons for this—namely, the occupation of the working benches by another batch of students, and the want of teachers to guide and help them. These two defects should be removed. The hours specified for practical classes should be utilised more for demonstration and the libraries, and the laboratories should be kept open during the whole day so that students may work in them during all available periods and thus be in a position to finish all work during the time intervening between two demonstration classes.

(*iii*) Under the present system the post-graduate teachers are entrusted with the work of framing the course of studies from year to year, and this principle should be extended to under-graduate teaching also. In the under-graduate boards of studies the teachers should be more thoroughly represented and the privilege of co-option that has been granted to the different faculties should also be extended to the different boards of studies. At present the syllabus forms a part of the regulation, which cannot be changed without the sanction of the Government of India, and this always takes a good deal of time. This state of things is extremely undesirable, and the Senate should be fully competent to sanction any syllabus without reference to the Government of India.

With the exception of the science and arts teachers directly under the University and also of the members of the teaching staff of the Presidency College to some extent and of a very few other colleges, the teachers of colleges are usually over-worked with the routine so that they have very little leisure work for pursuing independent investigation. Moreover, most of the libraries and laboratories of the colleges affiliated to the University are not sufficiently equipped for the purpose.

DAS GUPTA, KARUNA KANTA.

The functions of a university as stated in this question are all that may be desired but the increased responsibility of the Calcutta University owing to its unusual expansion, calls for the immediate necessity of creating at least two other universities, one in East Bengal, presumably at Dacca, and a second in the Western Presidency, with the ultimate aim of having one university in each head quarters district of each Division under a Commissioner in Bengal and Assam. Education is bound to spread. The Calcutta University should therefore be split up, as it seems to have already grown too unwieldy for a single corporate body to manage its affairs efficiently.

It is a noteworthy fact that many Bengal districts and Assam are not duly represented in the Senate, except by a few officials.

DAS GUPTA, SURENDRANATH.

(*a*), (*b*), (*c*) and (*d*). I agree to all the essentials of a university as mentioned in the question.

I am of opinion that this ideal is hardly attainable in the present system of our University. The reasons may be enumerated as follows :—

(i) It is economically impossible to secure a sufficient number of teachers of first-rate ability from outside to place all students under their personal

DAS GUPTA, SURENDRANATH—*contd.*—DATTA, A. C.

guidance. It can only happen if proper facilities are offered to the most promising people of the colleges or the University to develop their powers, so that there may be a constant supply of able men in the University. This is, as a rule, never done not only in private colleges but in Government colleges as well.

(ii) Calcutta University includes in name a very large number of colleges, but has no control over them except in so far as degrees and curricula are concerned. So there is no question of placing boys under good professors. The colleges are practically free to choose their own men, the University being satisfied if the men appointed have M.A. degrees.

(iii) In most of the colleges, specially in Calcutta, the number of boys is so large that the question of personal guidance becomes impossible in the highest degree. The professors do not know their boys and often cannot know by their faces whether they are their students or not.

(iv) There are no well-appointed libraries even in Calcutta of a specialised nature. The University is trying to get one, but even this is not open to all the students of Calcutta, nor can it afford to do it. College libraries are only libraries in name. The problem of mofussil colleges again comes in, as libraries in Calcutta can be of no use to them or their professors. Even the professors of Calcutta have not access to any other library than the Imperial Library. If I judge of this library from the point of view of my subjects (Sanskrit or philosophy), I should like to call it a most insignificant library with a high-sounding name.

(v) It is economically most unpractical to establish big libraries except in a few places where higher studies may be centralised.

(vi) The present system of college training where the graduate and the undergraduate work of an elementary nature are mixed up requires so much lecture work (of a tutorial nature) according to the regulations that if there be library facilities, it would be difficult for the boys to utilise them; so much are they occupied generally with their class work.

(vii) If libraries were started in a few central places and students for higher training be grouped together in those places and picked professors in the habit of making researches be chosen from different mofussil centres to be collected there, an ideal condition may be generated which may be highly beneficial to the students and professors alike.

(viii) There is almost no freedom of study and teaching and it will be difficult to organise in the present system, any, but the old stereotyped, procedure, where the business of the professors is to deliver a certain number of lectures on certain books fixed by the universities or on certain fixed curricula and it is the duty of the student to master those passages for examinations. In order to give any freedom of teaching, it is necessary that the professors chosen must be men of talent and character, but it is difficult to get such men or regulate their appointment in a large number of colleges extending over such large areas.

(ix) There cannot be any freedom of study with the students so long as instruction is subordinated to examination. With the professors it is difficult as the libraries are poor. There is no sufficient incentive to do anything but the class work.

(x) It is even now possible to allow sufficient leisure to the professors carrying on research work, but the mist of superstition has so much clouded the outlook that it is thought that the professor who does not do a large amount of teaching work is no professor at all. There is therefore no arrangement for giving any special facility or encouragement to the professor trying to advance his subject.

DATTA, A. C.

(*a*), (*b*), (*c*) and (*d*). I fully consider that the university training involves the main features enumerated

And the reason that it is not attained under the existing conditions of the Indian universities (although I see no reason why it should not be attainable under altered condi-

tions of these universities), is what I have already stated in answer to question 1, namely, the subordination of teaching to the examination. It is the freedom of teaching and of study which do not exist under the present university system in India.

DATTA, BIBHUTIBHUSON.

(*a*), (*b*), (*c*) and (*d*). I share the view formulated as to the functions of a university.

Thanks to the foresight of our veteran educationist, Sir Asutosh Mukherjee, his new post-graduate scheme is a step towards the realisation of the ideal, so far as the city of Calcutta is concerned. Formerly post-graduate studies were carried on in the city only at two centres, the Presidency College and the Scottish Churches College. The authorities of these colleges with their limited resources managed to train a limited number of students in a limited number of subjects. The students of one centre were not allowed to have the benefit of attending the lectures delivered by better teachers belonging to the other centre. Again, there are many colleges in the city which, though not able to undertake a complete course of lectures in an advanced subject, might be able to spare one or two members of their staff to lecture on a portion of a course, so that the ground would be completely covered by two or more professors belonging to different colleges. The new scheme, by bringing together all the best teachers of a subject selected from the staffs of all the colleges in the city, by appointing new teachers on its own account, by securing the services of "persons, engaged in other than educational work, who undertake, * * * to deal with special subjects in which they are authorities," and by making arrangements for the teaching of all the subjects in all their branches within the purview of the regulations, has afforded to the students better facilities of training by the better teachers and in a wider range of subjects. And further by making provision that "Every student of the post-graduate classes in Calcutta shall be assigned by the Board of Higher Studies in his subject to a particular member of the staff as tutor," the new scheme gives the student the greatest advantage of the training.

There are some, however, who are against the new scheme. They often quote in their favour the following remarks of the London University Commissioners :—

> "There should be close association of under-graduate and post-graduate works. Proposals which tend to their separation are injurious to both. A hard and fast line between the two is disadvantageous to the under-graduate and diminishes the number who go on to advanced work. The most distinguished teachers must take their part in under-graduate teaching and their spirit should dominate it all. The main advantage to the student is the personal influence of a man of original mind. The main advantage to the teachers is that they select their students for advanced work from a wider range, train them in their own methods, and are stimulated by association with them. Free intercourse with advanced students is inspiring and encouraging to under-graduates. Finally the influence of the University as a whole upon teachers and students, and upon all departments of work within it is lost if the higher work is separated from the lower."
>
> (The Essentials of a University in a Great centre of Population ; being a reprint of Part II of the Final Report of the Royal Commissioners on University Education in London. Government of India : Bureau of Education. Analysis of the Report.)

The new scheme is an advance towards the realisation of the foregoing ends and not otherwise as its detractors think it to be. For :—

(i) Under the old scheme only the under-graduates of the Presidency and the Scottish Churches Colleges had the advantage of free intercourse with advanced students, whereas the new scheme by allowing a graduate student to be attached

DATTA, BIBHUTIBHUSON—*contd.*

to the college of his graduation where he may join all the social and educational functions (*vide Sec.* 34) has really extended the advantage to the under graduates of other colleges.

(ii) Under the old scheme the best teachers of a college had to devote all their time to the post-graduate work, whereas under the new scheme they are relieved of a portion of their higher work so that they will now have time for undertaking under-graduate work as well as for their independent investigation. Thus at present, a teacher of an original turn of mind can watch a student from his under-graduate up to his graduate days which, in the opinion of the London University Commissioners, is to the advantage of both the teacher and the taught.

Thus the new scheme is not a separation of the post-graduate and the under-graduate work, but is a readjustment of the materials required for higher studies as far as they are available in the city so that the student may have the best opportunity and the University may realise its highest ideal.

What, however, the new scheme is doing is to get the best material for the post-graduate teaching out of the existing state of things. Beyond that in the under-graduate teaching the state of affairs is not up to the standard indicated in (*a*). It is possible to classify the educational services in Bengal into three main groups, *viz.* :—

(i) University service—comprising "teachers appointed and paid by the University" (chap. IX, 3 (*a*)).

(ii) Government service.

(iii) Private service—comprising the teachers in private institutions.

Leaving aside the case of university professors, every university lecturer is a first class M.A. or M.Sc. of the University, either a Gold or Silver Medalist; some of them have even higher distinctions as recipients of doctorates and of P. R. S., some have also British university training. All these men are engaged in post-graduate work only. The Government service is divided into two services, I. E. S. and P. E. S. (newly labelled by Lord Islington as classes I and II). There is also the third, the Subordinate Educational Service, which also shares in the college work. The I. E. S. is taken to be senior to the P. E. S. This division is primarily based on the artificial distinction of race and colour rather than on real educational qualifications. The Hon'ble Educational Member of the Government of India placed before the Legislature a return showing that in two recent years 46 members had been added to the I. E. S., out of whom only 31 were Oxford or Cambridge graduates, and that out of these 31, only—

8 were First class honours men
12 „ Second „ „
6 „ Third „ „
1 was a Fourth „ honours man

and 4 were ordinary "Poll" B. A.'s,—while the other 15 recruits were mostly graduates of the Irish, Welsh or provincial universities. In the twenty-one months preceding September 1912, 35 officers had been appointed to this branch, of whom 2 were first class and 7 second class Oxford or Cambridge honours men, while the remaining 26 had lower qualifications or belonged to cheap provincial universities of the British Isles." (*Modern Review*, Vol. XXII, No. 2, p. 183.) On the other hand we find in the P. E. S., men who by their university distinctions, by their later acquisitions as original researchers and by their success as teachers are of a far higher calibre than most men in the I. E. S. The average qualification of a P. E. S. man is, however, not equal to that of the university lecturer. The standard of private service is equal to that of the P. E. S. Under these circumstances it will not be easy to attain the ideal formulated in (*a*).

Here I think I should sound a note of precaution. As already stated the new post-graduate scheme (Chap. IX, 3 (*c*)) allows the selection of good teachers from Government service. In so doing no distinction should be made between race, colour or the classes of service, however odd it may appear. It may be said that this fear of being domineered over by race distinctions has given rise in the minds of some donors to the University a keen sense of super-patriotism as to make it a condition of their donation that the

holders of the chairs founded by them and the recipients of the research scholarships attached to those chairs shall be Indians. True education must not make any distinction of caste or creed, race or birth. That this note of warning is not unwarrantable can be seen from the following incident:—" Three years ago the *Times* (Educational Supplement) denounced the Calcutta University because the Presidency College was represented on its Board of Studies in history by a *junior*, while the *senior* professor was not on it. On investigation of this alleged scandal, the following fact came to light: the so-called *junior* was an Indian P. E. S. officer named Mr. J. N. Das Gupta, who had taken honours at Oxford as early as 1889 and had 24 years' experience in college teaching, while the officially labelled *senior* was, of course, an Englishman, Mr. Oaten, who had taken honours at Cambridge some twenty years *later*, but had been put over the old Oxonian's head by reason of his being a European." (*Modern Review*, Vol. XXII, No. 2, p. 181.)

DE, HAR MOHUN.

Yes, I share this view as to the functions of a university; but I am afraid the standard cannot fairly be applied now. The country is poor. The percentage of illiterate persons being overwhelmingly large, we care now more for quantity than quality. I do not mean to say that quality is to be altogether neglected.

DE, SATISCHANDRA.

(*a*), (*b*), (*c*) and (*d*). I subscribe to these.

Professors and lecturers should not only be intellectually qualified, but also be of good character. They should be older than their pupils, and should be such as to command their respect. They should have genuine sympathy for their students. They should be honest and painstaking. They should remember that their examples are often imitated by the students.

The best Europeans or the Europeans who are specialists should be persuaded to come over to India on special rates of pay. But the bulk of lecturers should be Indians, as they can best know the Indian mind, its difficulties and wants, and the means by which curiosity for learning may be awakened.

An arbitrary or illogical combination of subjects as is sometimes done in intermediate and degree classes should not be allowed.

DE, SUSHIL KUMAR.

(*a*) What is actually intended by the phrase "personal guidance" is not very clear: but if it refers, in a limited sense, to general tutorial guidance, my answer is in the affirmative. But I may be permitted to point out that the number of "teachers of first-rate ability and recognised standing" must of necessity be very limited in any university, and in view of this fact it is not very practicable to make the arrangement suggested. The supreme necessity of general tutorial guidance, however, can never be gainsaid. The system of tutorial work has been recently introduced in many of the colleges from the I.A. up to the M.A. standard. The experiment has only been begun and it is too early to pronounce any definite opinion on this subject. It may be suggested, however, that more stress certainly ought to be laid upon tutorial guidance where there is real opportunity of doing solid work. If a systematic record of such work is kept and if the degree is awarded not only upon the results of the final examination but also upon such records, then both the teachers and the students alike would benefit. It cannot be denied that such a step is imperatively necessary: for, among other reasons, it is only fair that the degree should be awarded not

DE, SUSHIL KUMAR—*contd.*

upon the uncertain results of three or four hours of written examination—in which enters a large element of chance—but also upon the substantial work done by the student in his two or three years' continuous course of study. This will, on the other hand, compel the student to do systematic work throughout his whole course instead of straining all his nerves on the eve of the examination in order to pass in some way or other. In my opinion, again, this tutorial guidance ought to be more systematic and more emphatic in the earlier than in the later stages: for if the work be properly undertaken at the beginning there will be no necessity for such work in the more advanced stage. This will not only allow a larger degree of freedom of study to the advanced student, but it will also leave us free to introduce the seminar system at the M.A. stage as a training towards higher work. It may also be suggested that the professor or lecturer ought not to combine the double capacity of a lecturer and a tutor: but that there ought to be a separate body of efficient tutors working under the direction of a professor or lecturer.

(*b*) My answer to this question is undoubtedly in the affirmative.

(*c*) There cannot be any doubt that a large degree of freedom of teaching and of study should be allowed: but how to regulate the freedom thus allowed is the most important question.

To limit the lectures within the bounds of text-books prescribed by the Board of Studies is an evil to which attention has often been drawn. Our educational system has been stigmatised as text-book-ridden and to a certain extent this stigma cannot be disputed. Text-books or class-books, to which Boards of Studies, consisting mostly of men having no direct touch with higher teaching, are so deeply attached, are bound soon to be out of date. Teaching wholly based upon such a foundation is fatal to all true proficiency or scholarship. Said the Vice-Chancellor in his Convocation Address in March, 1911—"What our universities undertake and what they are expected to undertake by students trained under a radically erroneous system, is to prescribe text-books as far as they can, text-books for even the most advanced subjects, text-books, in many instances, hopelessly antiquated or ludicrously inadequate." Of course, I do not propose here to do way entirely with all text-books or standard works on a subject. If they are evils, they are at the same time necessary evils: what is wanted is that they should be recognised as such, both by the student and the professor. It would be better if the University would, from time to time, undertake to prescribe a general syllabus on the particular subject and recommend books to cover and not exclusively limit the same: or it may ask the professor or the lecturer in that subject to draw up such a syllabus and recommend such books, to which the University may attach its approval. This general outline of the courses of lectures, if necessary, may be strictly adhered to, though the lecturer may be allowed to treat the individual topics in his own way, incorporating, as he may, in his lectures all the most important and most up-to-date information available. I am aware that at the I.A. and B.A. stages this system may not be so necessary and may frequently be misunderstood and abused, but in the case of higher teaching, it is almost indispensable. Instead of following the stereotyped groove indicated by the text-books, it would enable the professor to bring up his lectures to date, to discuss new facts that come to light, new theories that are put forward, and to refer the student to original sources and authorities. It will also leave him free to include, if necessary, in his lectures the results of his own investigations in that particular subject and thus make his lectures valuable and interesting.

With regard to freedom of study, the question seems to me to present some special difficulty arising out of the conditions obtaining here. It has often been pointed out that compulsory attendance of lectures, specially in the case of advanced students for B.A. honours or M.A., is an evil. On the other hand, it has been urged that if there is no such rule of compulsory attendance, it would, in the absence of any such safeguard as the residential system, only increase the number of absentee students. It cannot be denied, however, that percentage of attendance at present required (75 per cent.) is too high and that it should be reduced. In my opinion, in the I.A. and B.A. it would be quite enough if the student were required to attend 50 per cent. of

DE, SUSHIL KUMAR—*contd.*—DEY, BARODA PROSAUD—DEY, N. N.—DHAR, Rai Sahib BIHARI LAL.

the lectures delivered in each subject: while in B.A honours and M.A. no such rigid rule should be enforced. In order to safeguard the not unlikely contingency of the professors lecturing to empty benches, I suggest that the seminar and tutorial work should be better organised. The two or three years' course, as the case may be, should be divided into terms and the student should be required to do a certain fixed percentage of tutorial work every term. This will prevent the student from leaving the confines of the University and, in order to do the tutorial work efficiently, he will be bound to attend the class-lectures regularly. As the tutorial classes, again, must of necessity be small, the tutor will have ample opportunity of knowing every student intimately, and any case of irregularity or systematic absence will at once be brought to his notice. I make these suggestions, however, with considerable hesitation: for unless this system is given a fair trial, it may not work very successfully.

(*d*) It is undoubted that the teachers should have sufficient leisure to pursue independent investigation in their own subjects: but the question arises—what safeguards should there be to ensure that leisure thus allowed is properly utilised? I think the best way to prevent abuse would be that the teachers, to whom such leisure is allowed, should be asked to submit after a prescribed period substantial evidence of his work during this period. If necessary, distinction in this direction or meritorious work may be taken into account in the matter of promotion or increase of salary by way of additional inducement or encouragement.

DEY, BARODA PROSAUD.

(*a*), (*b*), (*c*) and (*d*). University training at its best involves the points given in this question, only in regard to (*c*) the degree of freedom of teaching and of study should be well defined.

The ideal is very partially attained at present in Bengal, and is attainable under this existing system, with some modifications, in Bengal, if the requisite money is spent for its attainment.

DEY, N. N.

(*a*) The students ought to be placed under the personal guidance of teachers of ability and recognised standing. Speaking of under-graduate teaching I can say that this can be attained by having a more intimate relation between the teacher and the pupil. And such intimate relation is possible more in the mofussil; hence efforts are to be directed to have such colleges, and the University should facilitate groups of teachers and educated men to found such institutions. It is not always necessary nor is it practicable at the preliminary and the under-graduate university stage to have a *very* limited number of students under one teacher.

(*b*) Certainly,—but to take advantage of a good library or a laboratory the student must be well-equipped in the higher school and the preliminary university stage.

(*c*) Yes. Even in the preliminary stages the selection of text-books may be left to teachers, the University only defining a syllabus which also would be revised periodically.

(*d*) Yes.

The reasons stated in my answer to question 1 sufficiently indicate that the ideal is not attained nor is now attainable under the existing system of university education now obtaining in Bengal. But by changing the system on rational lines we may hope to come up to the standard.

DHAR, Rai Sahib BIHARI LAL.

The ideal is not attained nor is it attainable under the existing system.

D'Souza, P. G.—Dunnicliff, Horace B.—Dutt, Bamapada—Dutt, Rebati Raman.

D'Souza, P. G.

(*a*), (*b*), (*c*) and (*d*). It depends upon what is regarded as the object of university training. If the objects of university education are merely to provide the best means of training, these follow as a natural consequence. Speaking from the experience of Madras, the ideal is incapable of attainment for the following reasons, *viz.* :—

(i) A lack of teachers of first-rate ability and recognised standing in their subjects.
(ii) Ill-equipped libraries and laboratories.
(iii) The undue prominence given to examinations which leaves little scope for freedom of teaching or study, and more than all, the constitution of the University which can exercise little control over the constituent colleges.

Dunnicliff, Horace B.

(*a*) Yes.
(*b*) Yes. I do not see how really good work is to be turned out without both good laboratories and a good library.
(*c*) I believe in a fixed syllabus for certain standards but, in advanced work, I advocate a fair degree of freedom of teaching and study.
(*d*) There is too much "extra-mural" work in the average college. In order that a chemist may keep himself informed of the progress of the times he must have time both for study and research. Naturally the heads of departments will have more time to spend on individual students than junior men taking larger and more junior classes. It must be remembered that the junior men hope to receive promotion to senior posts and so they too should have leisure in which to read current literature on their subject and to do original work.

I see no reason why such a standard should be inapplicable. It may mean a slight increase in expenditure for a few years, but if the students get keen on their work the utility of their existence to the technical world will become obvious and money will be forthcoming. It is a proposal whose merits or demerits can only be judged by experiment. (*Vide* also my answer to question 7.)

Dutt, Bamapada.

(*a*), (*b*), (*c*) and (*d*). Yes. University training at its best must involve the conditions set forth.

This ideal is not attained or attainable under the existing system in Bengal.

Dutt, Rebati Raman.

I admit that university training at its best and highest—I specially note the word highest—involves that students should be under the personal guidance of first-rate teachers who would read and work with the students in libraries and laboratories, would teach the boys not mere formulæ or text-books, but teach them all that they ought to know about the course proposed and who would themselves be yearning after fresh light in the regions of the unknown and kindle curiosity in their students for the same, and would sometimes convey these glad tidings to the students-friends and fellow-workers.

I have advisedly used the word highest, for to my mind the college course may be divided into two distinct groups, the under-graduate course and the post-graduate course, the one a course of training, of receiving information, the other a course of assimilation, discussion and consideration from several side points of view. It is in this latter

process that the direction of a master mind is necessary. In the under-graduate course it is well and good if the student remains under the personal care of a good teacher who loves and lives with the boy, feels his difficulties and ever helps him in the library and laboratory and teaches him all that he ought to know without confining himself to particular text-books. The professorial duty of the teacher should be the first care in the under-graduate course.

Under the existing system this ideal can be attained when the professor is *bonâ fide* so, with a loving heart and a sympathetic spirit; when he is easily accessible to his students and is ever ready to meet them and explain their difficulties. In private colleges where the professor has some personal attachment to the institution he often approximates to this standard, and specially in colleges situated in the mofussil, where students and professors live in near proximity. But a great town is a great solitude. Still a private college professor is better than a Government college professor who does not owe anything to the institution or to the success of his students. A European professor is at a further disadvantage, for the student can hardly be familiar with him. Of course missionary fathers have the peculiar knack of entering into the student's heart. When we were students of the Chittagong College for the F.A. course in 1903-04 we remember how greatly we valued this personal guidance of our professors, Mr. Purna Chandra Kunda, Mr. Bharat Chundra Dhar and others, and how we deeply deplored this loss of the personal touch when we came to the Presidency College in Calcutta in 1905. This may be due to the big size of the class and the peculiar life of a busy town. We gained this personal intimacy in the M.A. class however, and it was then that we really found a teacher.

The present post-graduate course under the University is a distinct advance and students now live and work with first-rate professors, some of whom themselves are engaged in research work. The post-graduate scheme is of recent origin and great things are expected of it. Care has to be taken that *bonâ fide* teachers are employed for the purpose and half-timers are taken in rarely. The classes may however grow too big for one man to bestow personal attention upon all the students and it may be necessary to find two or three other centres for post-graduate teaching, *e.g.*, in Dacca, Chittagong and Rajshahi. Already there exist arrangements for university lectures at Dacca in chemistry and economics, but the M.A. classes in Dacca have not been a success and they cannot be so unless we find a sufficient number of students who feel their corporate existence and pride in their higher pursuits. Then again there ought to be a sufficient number of good B.A.'s the pick of whom alone may feel any enthusiasm for the post-graduate work, and it is an unfortunate fact that the Dacca colleges do not turn out more than a handful of honours B.A.'s and B.Sc.'s.

I therefore believe that the condition of best under-graduate training can be obtained under the existing system of education when the University encourages the growth of first grade colleges in the mofussil where students may live under the personal care of their parents and of their professors, who again meet the parents and thus exercise a double control over students.

The post-graduate class should continue for the present in Calcutta under the separate organisation of the Post-Graduate Council where every post-graduate lecturer feels his importance and usefulness and where the lecturers find a free hand in deciding upon the courses of study and get ready access to the well-equipped university laboratory. The spirit for independent investigation also has roused many a lecturer to a new fire of purification and it would be a proud day for Bengal when in accordance with the recent suggestions of the Public Services Commission, the Government will secure some of the eminent research professors of the West for our Calcutta University and they will leave a permanent impress of their work upon the University. I of course do not approve of professors who would come at a cost of a few thousand rupees and pass away in less than three months with the cheque in their pockets after delivering a course of lectures in a stereotyped fashion. That is of no good. I want men who will live with us for a number of years, work with us and raise us to a full sense of our responsibility in the realm of knowledge, men who will organise societies and journals and get a batch of young workers to publish new thoughts and new lights for their pages.

DUTT, REBATI RAMAN—*contd.*—DUTTA, PROMODE CHANDRA—DUTTA, RABINDRA MOHAN —European Association, Calcutta.

In this connection I may say that our present system has often been decried by a set of honest educationists and a verdict has been passed in favour of the residential system, which is said to meet all the conditions for university training. But I do not know how we can have more personal guidance because the professor lives in his house adjacent to the students' quarters. The virtues of amiability and love and sympathy cannot be forced upon any man and there will be a good professor, an indifferent professor and a peevish professor too. The gentleman will certainly live with his family and has got his children's illness to look to and his bazar accounts to look after. He may feel it a great infliction if students are to go one after another in the early hours of the morning and the late hours after dusk. He will naturally fix the hours when he will meet his students in the library apart from lecture hours and so this personal direction would also after all be a matter of lifeless routine for which he need not live close by his students. With our peculiar social customs, the professor cannot play with us and dine with us without losing his control over us to some extent, specially in our undergraduate course. We, in our younger days, lived in the Eden Hindu Hostel under the personal guidance of a professor, but he was always thought of in connection with the messing arrangements and sick nursing arrangements. Personal touch in education there was absolutely none. In many Calcutta messes the superintendent is a clerk and a bazar accountant more or less. In fact there is no charm in living beneath the same roof unless the hearts beat together. As regards the personal touch one need not be always in physical touch. We greatly appreciated this personal touch when we met Professors Peake or Cunningham or Roy sometimes in the corridors of the college when he enquired how we were doing and asked us to read this and that book; when we met Professor Purna Chandra Kunda walking along the hill sides of Chittagong when he would talk of the lives of many a brilliant man and give us personal directions as regards life and study. All this was life of an easy unostentatious nature. The student felt the individual touch with the professor and that is what ennobled him. And for all this Professors Kunda or Peake might live a mile away from me. I shall deal with the other dangers of withdrawing a horde of young boys from the personal care of their guardians to a hostel in answer to another question. All that I say here again is that we can obtain the best of university training under the existing system; only let us have more colleges in the country where personal intimacy grows quicker under the softer blue of a clearer atmosphere.

DUTTA, PROMODE CHANDRA.

(*a*), (*b*), (*c*) and (*d*). Yes.

The ideal set forth is attainable (but not attained now) under the existing system in Bengal, provided more money be forthcoming for university education and none be retained as a professor who has not done some valuable work, and who does not carry on higher studies all through his career.

DUTTA, RABINDRA MOHAN.

(*a*), (*b*), (*c*), and (*d*). I consider that the ideal of university life as described is attainable under the existing system in Bengal if the number of libraries and laboratories is multiplied, if the number of teachers is increased proportionally and the teachers are paid liberally for their work and if the teaching in the colleges is not subordinated to university examinations. The first two of these conditions are financial questions which cannot be solved by any amount of argument. Otherwise there is no reason why under the existing system the ideals proposed in (*a*), (*b*), (*c*) and (*d*) will be unattainable in Bengal.

European Association, Calcutta.

(*a*), (*b*), (*c*) and (*d*). We consider that university training at its best involves the points enumerated.

FAWCUS, G. E.—GANGULI, SURENDRA MOHAN—GANGULI, SYAMACHARAN—GEDDES, PATRICK—GHOSA, PRATAPCANDRA.

FAWCUS, G. E.

(*a*), (*b*), (*c*) and (*d*). I agree that the four points suggested are desirable, but it is difficult to secure them.

In the first place the salaries offered in colleges, particularly in privately-managed colleges, are not always sufficient to secure first-rate teachers.

In the second place funds are not always available for the equipment of good libraries and laboratories.

In the third place owing to shortage of funds the number of teachers whom it is possible to employ is often so limited that teachers must either neglect their students or have little leisure for research.

Lastly, in colleges which have not succeeded in obtaining teachers of first-rate ability some external stimulus such as that of common examinations must be applied, or the teaching will be only of a very moderate quality. These common examinations, however, may tend not only to keep up the work of the less efficient colleges, but to keep down the standard of the better colleges. This seems to point to the desirability of having at least one thoroughly well-equipped and staffed university with a high qualification for admission and with courses regulated mainly by its own teachers. The colleges no tforming part of this University would apparently continue to need the stimulus of common examinations.

GANGULI, SURENDRA MOHAN.

(*a*), (*b*), (*c*) and (*d*). The replies are all in the affirmative. But teachers thus appointed should preferably be Indians, who are expected to be more familiar with the defects and requirements of Indian students.

For the realisation of the above ideals, teachers and students should have facilities or closer and freer association with one another, which is not possible under the present system. In fact the relation between (Guru) and (Sishya), which existed between the teachers and students in older days in our country, should be revived.

GANGULI, SYAMACHARAN.

(*a*), (*b*), (*c*) and (*d*). I do consider that university training at its best involves the requirements stated.

The ideal is not attained, and is not attainable except at a vast expenditure of money. The money required will not be available for a long time.

GEDDES, PATRICK.

(*a*), (*b*), (*c*) and (*d*). Certainly.

These functions do not seem fully attainable under present conditions. Yet if the general desire for them be granted, and the freedom and material necessity be supplied, the present spirit and organisation of the University should, of course, rapidly improve with them.

GHOSA, PRATAPCANDRA.

(*a*) and (*b*). Yes, university training at its best involves these.

The success of higher work depends on the intellectual and moral qualities of the professors and teachers who should be men of rare gifts, resolute will, superior training and of an indomitable love of learning.

Those who are at Calcutta know best as to the fitness of the present teaching staff.

GHOSE, The Hon'ble Rai DEBENDER CHUNDER, Bahadur—GHOSE, Sir RASH BEHARY—GHOSH, Dr. B. N.—GHOSH, BIMAL CHANDRA.

GHOSE, The Hon'ble Rai DEBENDER CHUNDER, Bahadur.

(*a*), (*b*), (*c*) and (*d*). My answers to these are in the affirmative.

The ideal is attainable under existing conditions if not under the existing system.

GHOSE, Sir RASH BEHARY.

(*a*), (*b*), (*c*) and (*d*). University training should in my opinion conform to the ideal indicated.

I consider that the ideal is attainable under the existing system in Bengal, though it has not so far been attained.

The attainment of this ideal, however, involves that:—

(*a*) and (*d*) There should be a larger number of the better class of teachers available for the work.

(*b*) The libraries and laboratories should be linked up closely, and not work in isolation from each other as now.

(*c*) The courses of studies should be more elastic, at least in the higher stages, the teachers being given liberty to design the courses in their respective subjects, subject to the final authority of a committee of the Senate.

GHOSH, Dr. B. N.

(*a*) Yes. I think in some subjects the existing staff does not represent men of first-rate ability or of recognised merit.

(*b*) I do not think there is a good scientific library in the whole of Bengal. Certainly every town which has got a college ought to have a well-equipped library. We are very much handicapped, for instance, for want of a good library.

(*c*) I think the laboratory arrangements in some of the private colleges are far from satisfactory.

(*d*) No doubt the teachers are given a certain amount of leisure for research work, but I do not think it sufficient in most cases.

GHOSH, BIMAL CHANDRA.

(*a*), (*b*), (*c*) and (*d*). I agree with the four-fold character of university training mentioned.

I hold that these tests cannot be applied to the existing system in Bengal—inasmuch as:—

(i) Teachers of first-rate ability (and I should add of unimpeachable character) are not many: nor does the system bring them into close association with students. On the contrary, it is the usual thing to consider it more dignified for a teacher to remain aloof from students.

(ii) Well-appointed libraries and laboratories are not many—and students were discouraged (until very lately) by irksome regulations and penalties from any *free access* to such.

(iii) Limitations exist as regards freedom of study and teaching and are sometimes most unreasonable.

(*d*) The University exacts an attendance of 75 per cent. of lectures delivered and the number of lectures actually delivered far exceeds the minimal requirements of the University. This has encouraged the disgraceful practice of

"attendance by proxy." This is the students' method of retaliating for bad teaching and compulsory attendance.

Syllabuses are drawn up and text-books prescribed which are too long and too many. Students do not get any leisure *to think*.

In short, the regulations of the University are harsh, but colleges and Syndicates interpret them still more harshly.

As lecturing is overdone and the number of teachers is not many, individual teachers do not have enough leisure. With less lectures students would have more freedom of study and teachers more leisure to pursue independent investigation.

(The Post-graduate Council has introduced this improvement fortunately this very session.)

Still, with modifications and improvements as suggested in the existing system, the ideal is attainable.

GHOSH, DEVAPRASAD.

(*a*), (*b*), (*c*) and (*d*). The four elements of university training at its best I have nothing to object to; and we may consider them as ideals to be always kept in view in any scheme of reform; but I do not consider each of these four to be of equal importance and usefulness. I do not consider conditions (*a*) and (*d*) are as important as the other two.

Under the system existing at present in Bengal none of these conditions are quite complied with; but if improvement is to be made in the standard of teaching, I think more attention should be paid to the elements (*b*) and (*c*) than to (*a*) and (*d*).

We must consider the present state of learning in Bengal. My idea is that the most pressing need at the present time is, and bids fair to be so for a long time to come, the utmost possible extension of education. In view of the general poverty of the people nothing should be done which will render education more costly and consequently less available to the people. We must not have less education under the pretext of better education.

Starting from this point of view, I think that the first condition laid down must not be stretched too far. Personal guidance of students by teachers of first-rate ability is quite a good thing; but I do not think it is indispensable. I enumerate the disadvantages of emphasising this point too much.

Personal guidance, if it is to be worth anything, involves that the students should be all personally known to the teacher; that their general conduct and methods of study should be under his supervision; and that the teacher should have time to look after each individual student.

The effect will be unduly to restrict the number of students; say, to establish a ratio of one to twenty, or at most of one to twenty-five, among teachers and students. And if the number of students is to be kept as it is to increase correspondingly the number of teachers would render the cost of imparting education tremendous. Let us take up a concrete case. In a private college, like Ripon College, there are roughly 2,000 students; taking the ratio of 25 : 1, there must be 80 professors on the staff for subjects like English; 40 professors in mathematics, and like numbers in Sanskrit, philosophy, and other widely-read subjects. And according to the first condition laid down, all these have to be men of first-rate ability. I do not suppose that such men are plentiful, and even if they were, consider the expenses to be incurred by the college, and consequently to be extracted from the students. The whole thing is unthinkable. Such a system would scarcely leave much time for independent investigation to the teachers, which is desirable.

Condition (*d*) itself can be carried too far. Men like Kelvin and Tait and Baer were great and noted scientists, still they lectured to students as long as they were physically able; but there are professors in the Calcutta University College of Science who do not lecture at all, perhaps deeming it beneath their dignity to teach mere students; and the ostensible ground is that they must devote their time to re-

search. This state of things is certainly not desirable. Of course teachers should have reasonable leisure to carry on original work; but the principle must not be pressed to any great lengths.

GHOSH, Dr. JAJNESWAR.

(*a*) If by 'personal guidance' is meant guidance from day to day and at every stage of the students' work, such an arrangement is not possible even in the case of those who are taking a post-graduate course, owing to the paucity of teachers of first-rate ability and recognised standing. Nor does it seem to be very necessary, for satisfactory results may be obtained by appointing as tutors or assistants, brilliant graduates who have just completed their education. Under competent guidance, they ought to be able to assist and direct the studies of those who are preparing for an ordeal which they have themselves passed with credit. Besides, as in attainments and intelligence they are not too high for the students, they have a better chance of entering into their difficulties and suggesting solutions and methods of study which have some relation to their aptitudes and powers of comprehension. The students in their turn will be able to understand them, and the sympathy which is born of such knowledge will encourage them to entertain and work for an ideal that seems quite realisable. Frequent contact with superior minds, though it has an ennobling influence, is apt to crush individuality and to teach a barren admiration that paralyses effort by presenting an ideal that is beyond reach. The tutors will thus supply a necessary link between the very limited number of professors of eminence and the students, and will 'help in welding the component parts of the University into a corporate whole.' The professor should be expected to explain the principles which underlie the subject which he professes, its scope and method and the difficult portions in it as well as the results of the latest investigations. He should also test by occasional exercises how far his instructions have been followed by the tutors and whether the students have worked on the lines approved by him. Such a division of labour has, I understand, been introduced in the University College and I consider it very desirable, because it secures economy as well as efficiency.

For under-graduate teaching in colleges the professors should, as far as possible, be recruited from among those who have served with credit as tutors to post-graduate students. They have not merely a distinguished career at the University to recommend them, but also the training which they have received under competent guidance in the art of teaching itself. And the university professors should be selected from among those who have earned distinction and acquired considerable experience as teachers of under-graduates.

(*b*) Yes, but as desultory reading is often a sheer waste of time, the students should be guided by their tutors in the choice of the books which they should read or consult.

(*c*) Yes, there should be as much freedom of teaching and of study as an external examination conducted by an affiliating university and submitted to by students from colleges of widely different standing will permit.

(*d*) Yes, for otherwise the best men will not be attracted to the profession and the best work will not be got out of them. A teacher who owing to lack of leisure cannot continue his studies and so improve his mind and add to his stock of knowledge will deteriorate till at last he comes down almost to the low level of those whom he is required to teach.

I consider the ideal set forth above attainable under the existing system, if it is modified in the manner suggested in my answer to question 1.

GHOSH, JNANCHANDRA.

I share the view that university training at its best involves :—

(*a*) That the students should be placed under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects ;

(*b*) That the teachers and students alike should have access to well-appointed libraries and laboratories.

This ideal is not attained at present. But I believe it is attainable under the existing system in Bengal.

As regards the other two points in the question I hold the opinion that a large degree of freedom of teaching and of study might be allowed from B.A. honours and upwards but not to the intermediate and B.A. pass, and the teachers having to teach B.A. honours and M.A. should have sufficient leisure to be able to pursue independent investigation in their own subjects.

GHOSH, JNANENDRA CHANDRA.

(*a*), (*b*), (*c*) and (*d*). The functions of a university, enunciated here, are only partially attained under the existing system in Bengal.

(*a*) I would differentiate between teachers of first-rate ability and those of recognised standing in their subjects. In the under-graduate classes of the University where the aim is to give the student a sound knowledge of a subject, and to stimulate his intellectual activity in general, an able teacher, though not a man of high reputation as an original investigator, may shine well. I believe personal guidance of such teachers and frequent association with an eminent professor of the subject may produce the desired results. It should, of course, be the aim of every institution, that its staff should be given every facility for original investigation, so that they may create a reputation for themselves, but it would be impracticable to suggest that every under-graduate student should have the personal guidance of professors of recognised standing who are rather rarities in India. In the post-graduate classes, where the student is required to develope his powers of original thinking, very close association with such a professor is a necessity, and I believe the reorganised system of post-graduate teaching in Calcutta satisfies this condition.

It cannot be denied that there is a great dearth of teachers of recognised standing and first-rate ability in the colleges of Bengal. The reason is not far to seek. The private colleges do not attract men of real merit, because of poor pay, and want of sufficient leisure and facilities for self-improvement. In the Government colleges the racial bar and the galling distinctions between the Indian Educational Service and the Provincial Educational Service, is chiefly responsible for the fact that the best intellects of the country do not take up the vocation of a teacher.

The number of students that a college can accommodate should be fixed definitely with a view to ensure personal guidance by teachers. In three or four Calcutta colleges, the number of students is too large for this purpose. The aim of these institutions should be not merely to pump information into the students. Much depends on the beneficial character of the influence exerted by the teachers and the general tone of the college life. It may also be doubted whether a student derives much benefit from a lecture delivered in an over-crowded room in an atmosphere not conducive to intellectual development.

It cannot, however, be ignored, that there is a great craving for higher education among the young men of Bengal. It is quite natural, since a university degree is always a passport to cultured society and opens up numerous avenues of employment. The

only way to satisfy this demand without destroying the true university ideal is to establish more colleges in Calcutta.

(*b*) Excepting the Presidency College, and the Dacca College to some extent, no *affiliated* institution can boast of well-equipped libraries and laboratories, where research work is possible, nor can the members of their staff (I speak of the science side on personal knowledge) claim to have done any original work whatsoever. In order that all the colleges may come up to this standard, they should not depend only on the fees paid by the students. Endowment by the public and substantial help from the Government can only solve the problem.

GHOSH, Rai Bahadur NISI KANTA.

(*a*), (*b*), (*c*), and (*d*) Yes. I agree in the view stated.

The ideal is not attained at present though it may be attainable in the present system but at a considerable expenditure.

(*a*) Students are too numerous to be placed under the personal guidance of teachers far less under teachers of first-rate ability. Number of teachers are considerably small in proportion to the pupils taught. The employment of more teachers and first-rate ones means more money which may be prohibitive.

(*b*) Well equipped libraries and laboratories are not many. Even where there are the students and teachers alike have not much leisure to engage themselves to study and practice. The students are accustomed to spend their leisure outside rather than in libraries and laboratories.

(*c*) Freedom of teaching and studies is not attainable in the present system.

(*d*) Teachers are as a matter of fact very ill-paid and have very little leisure after their daily work. I know of many school teachers, but not of any college professor or lecturer who sometime spend their day in three or four tuitions besides their duties. As to the college lecturers the number of working hours in college duties, in lectures and tutorial class work is sometimes such as to leave no sufficient leisure to enable them to pursue independent investigation in their teaching subjects.

GILCHRIST, R. N.

(*a*), (*b*), (*c*) and (*d*). I share the view put forward here; but I do not think it is applicable to Bengal in practice at the present stage of university education.

The ideal is not attained here : but, in my opinion, it can be attained in the future.

In Bengal we are face-to-face with a problem unparalleled in any country. A western system of education has been introduced among a people with eastern methods of life and eastern ideals. A system which has grown up among a people different in traditions, manners, language and political status through the course of centuries, has been implanted among the people of Bengal; and it is scarcely surprising that the result has not been satisfactory. Whereas British universities evolved from lower to higher, from general studies to special studies, our local institution has had no evolutional growth. The organism was simply set down in Bengal, to reach maturity as best it could. Its growth has been a sudden overgrowth, accompanied by many diseases, and many remedies. Little care seems to have been exercised in the growth of the institution. While giving education, it required guidance, a guidance which seems to have been as haphazard as the British constitution in which its models grew and flourished. The fact of different people with different manners was not recognised. London was imitated too slavishly when the *cetera* were not *paria* and the *mutanda* not *mutata*. The new institution was left to wonder as it could in the realm of higher education, and from the dark labyrinth it is difficult to find an exit.

GILCHRIST, R. N.—*contd.*

The standards laid down in this question are applicable to any university as ideals. The question in Bengal is how far can the ideal be realised? In my opinion the time has not yet come for the realisation of any part of the ideal to any appreciable extent for, in the first place, I hold that it is useless providing for an ideal till the university student can benefit by the provision. As the present standards are, it is useless to have teachers of first-rate ability and recognised standing in their subjects. I am not quite sure, however, of the exact meaning of this section of the question. Teachers of first-rate ability are urgently required in Bengal; but not teachers of first-rate ability who are also of recognised standing in their subjects, that is, I presume, a standing recognised by learned bodies or other teachers in the same subjects. Such teachers can be procured only for very high salaries, and even high salaries would hardly attract men to a place where neither the apparatus nor the academic medium of their work exists. In the present stage of Indian university education I consider it most unwise to spend money on highly paid professorships or research schemes. We must first clear the ground on which such schemes could be worked, and for such preparation the first-rate university man is not required. Recently the University has had an experience of this—in the case of Dr. Young, who could find little—or nothing—to do when he came here, but who had to be paid handsomely for coming here at all. In my opinion we cannot yet afford the luxuries of university education. They would be as uneconomic here as would be the work of an Oxford professor in a kindergarten school. It is cheaper to encourage the best of our young scholars to go to Europe for further training, just as many universities in Britain have to send their sons away for studies they cannot provide. Salaries to professors are only a small part of the total expenses: laboratories and equipment are as necessary, and for research work these are very expensive. In certain subjects research is possible without much expense, and in these cases the student must be left largely to himself or must work with the type of officer procurable on terms consistent with the means available.

I hold that all the university staff should be teachers. It already is possible to give certain leisure to teachers, though by no means enough. It should be possible to give definite leisure to men whose work promises good results; but in no case do I think that teachers should be appointed mainly as research workers. In addition to my reason that we cannot afford this as a country, I consider it most dangerous policy on general academic grounds. In my own University, Aberdeen, the first stage of university work is a post as assistant professor. An assistant professor has many routine duties to perform, but it is during the tenure of his post that he does such research work as may justify his promotion to a lectureship or professorship. Research work implies the habit of scholarship, a habit which cannot be forced, and a young man can make a future for himself as a scholar only by doing his researches alongside his ordinary work.

I may add here, as a parenthesis, that owing to the peculiar climatic conditions of Bengal I consider that if Europeans are to be imported to the University as teachers they should come at a relatively early age—about the same as members of the Indian Educational Service. It is useless to import men whose age lessens their chances against the climate or whose habits of life make adaptation to totally new conditionss difficult, if not impossible. Personally I think that the University should provide its great men from itself. It is no credit to the University—if the idea of *kudos* to the University is involved in the men of recognised standing—to have well-known men on its staff who have made their names under exotic conditions. The European is, moreover, under the physical disabilities brought about by equatorial torpidity and the anopheles mosquito, disabilities which gravely hamper his work.

The general remarks I have made above apply also to laboratories and libraries. We must work with the best we can get, and these for many years will not be Cavendish laboratories or Bodleians. The provision of research laboratories, in particular involves great expense, which can be justified only if no more urgent need exists. In the general scheme which I support, I hold that concentration should be made on definite institutions, and these institutions should be developed on the idea that they will one day be independent universities. Concentration on these means equipping their laboratories and libraries to the highest extent possible—not necessarily for research work, but for a good B.A.

honours degree standard. I see no reasons for delaying the grants of charters to reasonably equipped institutions, though they may not fully meet the desires of research workers, provided the staff is sufficient. All new universities must have small beginnings.

My main contention is that in Bengal, and India generally, we must be content with a medium position in matters relating to teachers, laboratories, equipment, research, and degrees. This medium position is of course, or should be, only transitional, but the period of transition will necessarily be somewhat lengthy.

The degree of freedom in study and teaching depends on organisation, and with this subject I deal later.

Finally, under the present circumstances I see no shadow of possibility of the realisation of the ideal of first-rate teachers in the near future. The University of Calcutta controls about two score of colleges, and its own staff, but how many of these are men whom British universities could find a place on their staff? The University must go on somehow, and it must go on with the present type of worker, for as far as I can see, the University can get no other. Some of its workers *are* men of recognised standing: some are promising workers, but the majority are far below university standard as accepted in Britain. And many of these are the best procurable! Only by the long process of root-and-branch reform from the A of education to its Z can the University produce any appreciable number of reasonably well equipped men. At present of course the addition to local degrees of training in England is fitting many men for university positions, but they are as drops in the Ocean. The importation of Europeans is too expensive to take place on a large scale, and it is necessary to have them as teachers in schools or in training colleges as much as in the University. Medium work with medium men is necessary not only in theory, but in practice. The eradication of many men obviously unfitted for even the present type of university work is an urgent necessity. For authority on this question I may refer the other members of the Commission to the speech of Sir Asutosh Mukherjee in initiating the present post-graduate scheme in July of last year. Sir Asutosh in supporting the university appointments said that he could not find men fitted to do the M.A. and M.Sc. work in the colleges. Considering that the M.A. and M.Sc. are much the same as the B.A. honours degree, this is a sweeping condemnation of the present Calcutta colleges. While holding that the colleges should be strengthened instead of a new organisation working largely apart from the colleges, I agree fully that the colleges are badly staffed. The measures I support for strengthening the colleges I give in a later question.

GOSWAMI, BHAGABAT KUMAR, SASTRI.

(*a*) As a purely educational 'ideal' the principle is very sound that 'students should be under the personal guidance of teachers;' and it was so in ancient India and even in medieval India under the indigenous residential system of education. But conditions in modern India are hopelessly difficult for complete realisation of such an ideal. The absolutely unrestricted intercourse between the teachers and the taught, which fullest personal guidance implies, is unthinkable under the prevailing caste rules and social prejudices. Residential or non-residential, every university system, that can be devised in modern India, will provide for personal contact between students and teachers only within certain limits and during specified periods.

As for the second part of the proposition that students should be under the guidance of 'teachers of first-rate ability and recognised standing' the principle should be accepted with an important addendum, namely, that such teachers must have the fullest sympathy with the reasonable ideals and aspirations of the pupils, and must be thoroughly conversant with the conditions in which the latter move, live, and have their being. The teachers must know the language of their wards, their customs and even their prejudices. Only under such conditions can personal guidance be useful and effective.

GOSWAMI, BHAGABAT KUMAR, SASTRI—*contd.*—GOSWAMI, Rai Sahib BIDHUBHUSAN—GOSWAMY, HARIDAS.

(*b*) Not only to libraries and laboratories but to all other store-houses of useful information and instruction, such as museums, monuments, as well as industrial, commercial and other centres.

(*c*) Yes, 'there should be a large degree of freedom of teaching and of study,' and reforms are urgently required in this direction. Under the too rigid and mechanical system of a practically inelastic syllabus, which leaves very little scope for guidance by the teacher in new lines of intellectual activities, the services of an expert in a particular branch of a particular subject are practically useless, and a student will nowadays pay no attention to teaching which will not help him in the examination. The remedy lies in giving the teacher a more potential voice in judging the merit of his student. Departmental certificates must be attached to the final diploma, showing the progress of the student in detail in every branch of his subject.

(*d*) Yes, but the principle as enunciated does not go far enough. It is also necessary to make the teacher's profession free from cares.

I should like to put in a word here to supplement the ideals detailed above.

At the top of the university system, in connection with post-graduate education, provision is necessary for the co-operation of the teacher and the students on one side, and of the teachers in a particular subject among themselves on the other, in the field of advanced research. Such co-operation has been productive of good results in every age and country. Even in ancient and medieval India joint authors of important literary works was not a rare phenomenon; and as for the help that can be rendered by pupils—well, even the great Vyasa completed some of his immortal works with the collaboration of his distinguished disciples.

I may mention that this principle of co-operation has been partially introduced in some subjects, but it should be more generally adopted.

GOSWAMI, Rai Sahib BIDHUBHUSAN.

(*a*), (*b*), (*c*) and (*d*). Yes.

My answer to the first question makes it clear that the ideal has not been attained in Bengal in a large majority of cases; and that it will continue to be unattainable as long as the defects indicated above are not removed. It should be noted that under the present system the students are not at all placed under the personal guidance of teachers, whether of first-rate or second-rate ability. In these days only a very large minority of students seek the help of well-furnished libraries. The principal aim of the students is to somehow secure a degree, and not to acquire knowledge for its own sake.

GOSWAMY, HARIDAS.

(*a*), (*b*), (*c*) and (*d*). Yes. I share the view of the functions of a University defined in the question.

The ideal is not attained in Bengal.

(*a*) There are not many teachers of first-rate ability. Teachers and students are not brought into intimate personal relation with one another. The teacher's function is confined to mere lecturing and, in many cases, only to dictating notes. No wonder that in the majority of cases no influence is exerted on the pupils.

(*b*) Teachers fail to evoke a thirst for knowledge, a lively enthusiasm in the student. The passing of examinations is the dominant aim. Hence libraries are availed of by a few only even where they are provided.

(*c*) There is no freedom of teaching and study. Teaching and curricula are regulated by the examinations. There is not much independent study. Too much help is given to students.

Under proper organisation the standard is attainable in Bengal.

GRAY, Dr. J. HENRY—GUHA, JATINDRA CHANDRA—GUHA, RAJANIKANTA.

GRAY, Dr. J. HENRY.

(*a*) Yes.
(*b*) Yes.
(*c*) Yes. In that elective courses or subjects might be offered and freedom of choice given within them to under-graduates.
(*d*) Yes, without reservation in post-graduate work.

Financial considerations aside. I believe it is not obtained but to be obtainable by, in one case, division of work, and in another, consolidation.

Because of its sheer bulk it is not obtained but I believe might be by territorial division and consolidation in local centres.

For example—

Bengal University { Calcutta section. / Dacca section / Murshidabad section. } etc., if you will.

By consolidation—

Calcutta Section { Either removal to a suburb, or by land purchase in the city, say from Harrison road to Bow Bazar, east side of College street to Amherst street.

Thus paralleling the Presidency College, Senate House and Medical College buildings on the west side of College street.

Finances considered, I believe the cost of remaining on such a basis will not exceed removal and will thus save the present equipment. Other obstacles I believe might also be overcome.

In a matter of such great importance I believe that cost should be the least important factor.

GUHA, JATINDRA CHANDRA.

My answer to (*a*), (*b*), (*c*) and (*d*) is in the affirmative.

GUHA, RAJANIKANTA.

(*a*) Yes; but "teachers of first-rate ability" should be recruited from the ranks of Indian as well as European professors. The same weights and measures should be used to determine who are, and who are not, really entitled to be classed under this category Here the colour-bar must be looked upon as a solecism.

(*b*) Yes.

(*c*) It is difficult to give an unqualified assent to this proposition. First, with regard to the freedom of teaching. It might be said that in respect to this, the professors of the University of Leiden and those of the Calcutta University stand at two opposite poles.

The following passage will throw light on the Leiden system :—

"A professor's life is permitted to be quite as individual as the students'. If he judge that his students will receive as great benefit from two lectures a week as from five, he has the right to limit his lectures to the smaller number. If he judge that research represents the field he ought to cultivate and not teaching, his is the right, too, to give his strength to enlarging the boundaries of scholarship. If indeed it can be thought that indolence may possess a man so vigorous as is the typical Dutch professor, no one denies him the opportunity of plucking the lotus-flowers of scholastic ease."—Thwing, Universities of the World, pages 35-36.

We do not want to introduce a state of things like this in Bengal. But a little more freedom of teaching than they enjoy at present might be safely conceded to

the teachers of our colleges. As things now stand, they are handicapped by the urgency of finishing the text-books within prescribed time-limits, and the anxiety of the students to have only the sort of lectures that would enable them to pass their examinations. "If they teach what they themselves hold to be important, without considering whether it will pay, their pupils will simply refuse to listen to them."

The students of the Calcutta University have very little freedom of study. It is true, they have a pretty wide choice of subjects, but they have to attend a high percentage of the lectures (as high as 75 in the intermediate and B.A. courses), strictly abide by the Syllabuses, and exert themselves to their utmost for the purpose of passing their examinations, on which, in the existing circumstances of the country, depend all their future prospects. Perhaps the time has not yet come to give them the amount of freedom which is the time-honoured privilege of the student of a German university like that of Berlin. But the regulations about attendance, courses of study, etc., might be made a little less stringent, and a shade more flexible.

(*d*) Yes.

The ideal is not attained in Bengal under the existing system, but with changing circumstances it is attainable. University education in Bengal is only sixty years old; it would, therefore, be a mistake to transplant in India a system which is in a country like England or Germany a growth of centuries. One difficulty that strikes the mind in this connection is the dual government controlling education in Bengal.

GUPTA, AMRITA LAL.

(*a*), (*b*), (*c*) and (*d*) University training at its best certainly involves what has been laid down in the four sections of the question.

Except in the post-graduate classes, the ideal is neither attained nor attainable under the existing system in Bengal and in the existing institutions forming federal units of the University. Even in the post-graduate institution the appointment of some gentlemen who have the prospect of the realisation of their aspirations or have other more lucrative professions to be directly interested in and consequently cannot afford to pay the necessary undivided attention to the profession of teaching, is open to very serious objections.

The profession of teaching is not yet attractive in this province for various reasons. There are many distinguished graduates of the University who have earnestly devoted themselves to the work of post-graduate teaching; but the large majority of teachers in schools an colleges, and specially in the secondary schools, have been driven by necessity into the teacher's profession in the absence of a better opening; so, they have neither the heart nor any interest in their work. Unless the teaching profession is made more respectable by better pay and prospects and by reasonable freedom, it will not attract the better class of graduates of the University.

I beg to submit the following observations for consideration:—

(i) There is no unity of purpose but an eternal conflict of opposed interests.

(ii) No one seems to be responsible to any organised opinion of the country for the education of the children of the soil.

(iii) The real needs of the country are seldom studied with a view to meet them with sympathy and abiding interest.

GUPTA, BIPIN BIHARI.

(*a*), (*b*), (*c*) and (*d*) I admit the desirability of all the sections.

I do not consider that under the existing system the ideal is attained or attainable. The university regulations limit the colleges classes to 150 students each. Hardly any

intimate bond of fellowship is established between the students and their teacher who has got simply to carry out a prescribed routine-work. You demand at least the average quality of teaching-work from the average teacher for the class of 150 students. If you pass a lesser number of boys from your college than other colleges of the University, you come in for a pretty bit of warning from the authorities who seem to doubt your competency to undertake the teaching of certain subjects. The university inspectors come, examine the cubic capacity of the class-rooms, look into the office records, insist that for every hundred boys there should be a professor;—and there is an end of the business. Teachers of first-rate ability and of recognised standing in their subjects are not wanting; but, like others, they come into the class-room, call out the rolls, begin to explain passages or deliver lectures, and before they have settled down to their work the fifty-minute period is over; they vacate their chairs which others occupy. And the students respond to another roll-call and have to listen to another lecture, may be on the same subject! There can be no personal guidance of teachers under such circumstances in a non-residential college.

The Bengali students are very poor; and most of them cannot afford to deposit money for the privilege of taking out books from the college library or from any public library.

It must be clearly understood that any patch-work reform of the University will hardly improve matters. Our University is not in harmony with its environments; it does not draw sap from the social organism of Bengal; it does not tend to become a vitalising fact in Bengali life. It has been consistently ignoring Bengali thought currents in the past; and young men and women who pass through its portals would have formed a completely alien group in our domestic surroundings, had circumstances conspired to segregate them in their college days in attached hostels. The university authorities now insist that our young men shall not lodge and board with their uncles or brothers unless there be some female member of the family in the boarding-house and so scores of young men are being herded together in hostels under the general supervision of a superintendent; the various currents of domestic affection cease to operate directly upon them for a number of years: and when they return home, they show signs of an abnormally developed individualism which is hard to fit in with the communism of our joint-family system. At college, they were fed upon Elizabethan literature or eighteenth-century English ideas and ideals which left them absolutely ignorant of the real England of to-day.

GUPTA, UMESH CHANDRA.

(*a*), (*b*), (*c*) and (*d*) The methods as indicated are the best functions of a university.

(*a*) I am of opinion that compulsory residential education is quite unsuited to Bengal as most of the students come from the poor middle class and these boys mostly live with their better circumstanced relations or with strangers, who are charitably disposed gentlemen and get their food without any expense; and with such help these poor students passed their university career and some of these boys became brilliant students of the University and made themselves distinguished in different walks of life. The present existing restrictions imposed upon their living in recognised messes or with *bona-fide* relations have become a stumbling-block to many poor boys to get university education; as for example of getting food without expense at a stranger's house. I note that about twenty-five students of the Berhampore College are provided with free board and lodging by the Hon'ble Rai Baikunta Nath Sen Bahadur of Murshidabad. If the residential system be made compulsory university education will be denied to many poor students by indirect means. A great many students of the University come from this class.

HALDAR, Dr. HIRALAL.

(*a*), (*b*), (*c*) and (*d*) My answer is in the affirmative.

The ideal set forth in this question is not yet attained under the existing system in engal, but it is certainly *attainable*. There can be no doubt that teacher and stu-

dents alike should have access to well-appointed libraries; but where are such libraries? There is not a single library in Calcutta where all the well known works on philosophy are available. I confine myself to my own subject. Calcutta is one of the foremost cities in the British Empire, but there is not one decent bookshop here where you can buy a standard work on Philosophy. I believe that the same is the case with other subjects. I often find it necessary to consult books which I was enabled to read years ago when by some lucky chance I managed to get hold of them, but I do not know where to find them. Some of them are out of print and cannot be purchased. When I advise students to read particular books, they often ask me where they can get them, and all that I can do is to scratch my head. They have not sufficient means to buy all the books which they should read, most of which are costly.

Besides the foundation of good libraries for which a very large sum of money is necessary, the attainment of the contemplated ideal depends upon the University being able to secure the services of good teachers, of men who have devoted themselves entirely to study and research and may, therefore, be said to live consecrated lives. Such men however, are very rare at present, but I expect that the recent organisation of post-graduate studies will have for one of its consequences the creation of a centre of learning, producing in course of time precisely such men as are needed to make university training a complete success.

HALDAR, UMES CHANDRA.

(*a*), (*b*), (*c*) and (*d*) I subscribe to these.

The ideal is not attained, but it is attainable under the existing system in Bengal. The teachers should be men of high intellectual attainments and of good character. They should be good sportsmen and should intimately mix with their pupils not only in the college, but in the hostels and in the play-ground. They should be contented men. Their pay and prospects should be raised so as to command from the public and from the pupils an amount of respect befitting their noble profession.

HAMILTON, C. J.

(*a*), (*b*), (*c*) and (*d*) There seems to be no room for difference of opinion as to the need for the four conditions of a good university training here referred to. Perhaps there is some room for difference of opinion regarding the interpretation of clauses (*a*) and (*c*).

(*a*) Much has been said lately about the importance of holding tutorial classes. I think it may be admitted that, so far, the efforts to develop the tutorial system have achieved only a very qualified success. I think the reasons for this comparative failure are chiefly :—

(i) Those responsible for holding tutorial classes cannot in many cases be described as teachers of first-rate ability or of recognised standing in their subjects.

(ii) Attendance at the tutorial classes has scarcely yet come to be regarded as a necessary preliminary to entrance to the examination, a consideration which governs the attendance of a large proportion of the students.

There is some danger that the tutorial class may degenerate into a mere coaching or even cramming class. At Oxford or Cambridge the tutor performs two distinct functions. He gives general advice as to the studies which a particular student may best take up and as to the lectures which he may with profit attend. Here the tutor's responsibility ends. In the second place, the tutor may exercise a more direct influence by guiding the reading and correcting occasional essays of his pupils. The tutorial function of this kind is not performed in classes but in occasional interviews between the tutor and a single pupil. It is almost impossible to fulfill this particular function in a tutorial class even if limited to half a dozen students. If a class is needed it appears to me to be evident that the work of original instruction by the lecturer has been defective or that the pupil himself is not sufficiently advanced to benefit by

his lectures. In either case the remedy is not to be found in a reduplication of work where the same ground is covered by a lecture and then re-covered by the same or some different individual in a tutorial class.

(*c*) While there is no difficulty in consenting to the general proposition, I would here say that, in my view, there is ample freedom of teaching and study within the limits of an examination system when the work of preparation is in the hands of competent teachers.

The conditions implied as essential to university education at its best by the preceding clauses are certainly not attained by the existing system in Bengal. Neither are they attainable. The reason is that, as already pointed out, the first four years of the university career are spent in a college which is not and cannot become, in the great majority of cases, integral part of a well equipped teaching university.

The colleges are now mainly occupied with what is properly the work of secondary schools. Although they do in fact prepare their pupils for university degrees it is and must be the exception rather than the rule for these numerous and scattered colleges to possess "teachers of first-rate ability and of recognised standing in their subjects." Neither is it possible for them to have "well appointed libraries and laboratories," judged by a university standard. The resources in men and money cannot be adequate for the purpose of turning each of the affiliated colleges into the position of a well equipped university. Neither is the number of students who are really capable of benefiting by the opportunity to obtain a University training likely for some years to need such extensive provision.

From this the logical conclusion seems inevitable—if the four "marks" of true university education be accepted as given in these cases, then, since they cannot be present in the scattered mofussil colleges, these colleges cannot be made integral parts of an efficient teaching university.

HARLEY, A. H.

(*a*) and (*b*) are essential conditions of study.

(*c*) Freedom of teaching does not seem to me capable of close definition. A very important function of education is to ensure that the student shall know something thoroughly and in its acquisition shall have acquired the habit of industry and application to the difficult task. There is therefore no possibility of altering the course in languages beyond presenting similar texts of equal difficulty and utility. In the highest stage a professor of Persian, say, might be allowed and encouraged to take up Pahlavi or an allied additional subject or to arrange a course of illustrated historical lectures on this subject not for the sake of any emolument, but with a view to letting his advanced student have an opportunity of reading the literature of a cognate language or becoming more deeply acquainted with the customs of the "people of the language" and thereby extending his knowledge of the group. Such freedom could only be exercised at the highest stage of study.

The student's freedom should be restricted to the choice between a classical and a modern side at school; the selection of his group in the B.A. stage; the selection of his subject or subjects in the highest stage. The routine should be so arranged in a college that it would be possible for the student to take an additional subject outside his group in his college course if he should so desire; this subject would of course not be included in his degree subjects.

(*d*) It is essential that the teachers should have leisure for their private study.

The existing system as such does not seem to me to place obstacles in the way of attaining the ideal; that the ideal is not more fully realised is due in some measure to the fact that there does not yet exist a university with sufficient professors possessing qualifications, experience and personality calculated to make a profound and lasting impression on youth.

HAY, Dr. ALFRED—HAZRA, JOGENDRA NATH—HOLLAND, Rev. W. E. S.

HAY, Dr. ALFRED.

(*a*), (*b*), (*c*), and (*d*) To each of the questions I wish to return a most emphatic answer in the affirmative. Unless the work of a university is being carried on in accordance with the principles enumerated, the University can never be capable of fulfilling the real objects for which it was established.

I am not sufficiently acquainted with the existing system in Bengal to express any opinion as to how far the ideal aimed at is being attained.

HAZRA, JOGENDRA NATH.

(*a*), (*b*), (*c*) and (*d*) The ideal of a university as indicated has not been attained, but is attainable in this University.

(*a*) The status and the salaries offered to teachers are too low to attract men of first-rate ability who in time could attain recognised standing in their respective subjects. Besides the responsible character of educational work is neither appreciated nor socially recognised. For these reasons young men of high merit and qualifications are unwilling to accept educational service. Those who enter educational service do so generally not by choice, but by necessity, and for the first few years are on the look-out for a better service or profession.

Under the present condition of things the personal guidance of a teacher whose devotion to his subject and to his work could inspire belief and awaken enthusiasm in young minds is generally wanting. In a large college teachers of recognised position rarely come in contact with their students outside the lecture room, and even in the class room students do not get individual attention. In some cases where students are divided into batches for tutorial help, the batches are generally too large for any real work, and the work is usually entrusted to inferior hands.

(*b*) In some colleges there are good libraries to which both teachers and students have access, but there are very few laboratories where students are allowed to work by themselves with such help and guidance from their professors as may be necessary. For this a larger staff and a larger accommodation are necessary. The staff and accommodation now provided in colleges are rather insufficient for their regular work.

N.B.—The remarks made above refer only to undergraduate work.

(*c*) In colleges all teachings and studies are subordinated to the examination. So unless the system of examination were changed, there could be no advantage from freedom of teaching.

(*d*) Teachers now generally have got sufficient leisure to pursue independent investigation if they have the inclination to do it. But they can hardly find the means of doing it. Library grants for colleges are generally very limited, and very few colleges will consent to spend large sums for the purchase of apparatus for the research work of its teachers.

This is specially the case with the colleges situated in the interior.

HOLLAND, Revd. W. E. S.

(*a*), (*b*), (*c*) and (*d*) I share the view of the functions of a university suggested.

I hold that ideal to be entirely unattainable under existing conditions in Bengal, for reasons most of which have been stated in my previous answer.

(*a*) Teachers of first-rate ability cannot be available for students in the colleges, if the highest work is segregated in the University; nor if each college has to be a miniature university, without that opportunity for specialisation which inter-collegiate co-operation would afford; nor if numbers

are so unwieldy as to make the tutorial system an impossibility. I may add that the unusually high percentage of passes (83 per cent. and 84 per cent. in the I.A. and 71 per cent. in the B.A.) achieved by our college through use of the tutorial system,—though our staff is still relatively inexperienced,—serves to emphasise the results that can be attained when Bengali students receive proper individual tuition, and the injustice done when students, who under proper conditions could acquit themselves quite creditably, are admitted to colleges so overcrowded that only a very small percentage of their students can be well enough taught to enable them to pass. It is a wrong to encourage students to enter your college and spend their time and money unless they can receive the attention necessary to enable them to secure a reasonable prospect of success.

(*b*) Access to well-appointed libraries is all the more necessary when it is remembered that most Calcutta students are too poor to be able to purchase for themselves any books other than those actually prescribed. Very many cannot afford even these, and content themselves with borrowing these from others or with purchasing the miserable little cram-books that abound. But it needs to be added that very little use will be made of libraries while the methods of instruction remain what they are. Students have no interest in more than the bare minimum of information requisite to secure a degree. The pass to which things have come in this University may be gauged by the experience of a certain college when being inspected with a view to affiliation to the honours standard in philosophy. When the principal suggested to the inspector, one of the most respected teachers in the University, that he should examine the college philosophical library, the reply was:—"No, I don't think that necessary. The fewer books boys read the better. They cannot understand them, and only get confused."

(*c*) Until educational standards are much more secure, and the controlling influence of public opinion more effective, it is impossible to substitute college tests for university examination. Pressure to lower standards will be irresistible so long as what is wanted is a qualification to admit to certain posts, rather than attainment of certain standards of culture. Deliverance from the tyranny of the present system of mechanical examinations must be sought along other lines. The prescription of text-books and a detailed syllabus will not do. They will only impose a more deadly servitude. Freedom must be sought along the lines familiar in Honours examinations in England: the offering of a large choice of questions ranging over the whole course, each of which will demand detailed thorough knowledge of some section of the subject. The substitution of a single 3 years' honours course for the present honours B.A. and M.A. courses, will serve to free student and teacher alike from the constant pressure of examination.

(*d*) If the body of college lecturers remain isolated, as at present, from the highest university work, they are little likely to feel the stimulus to independent investigation. Motive and leisure alike may in part be supplied by inter-collegiate co-operation. But nothing short of the close association of the colleges with the most advanced work of the University will be adequate to this end. The complement of such co-operation between university and college would be the liberation by the University of a small body of experts who would inspire and guide research work.

Inter-collegiate co-operation will of course facilitate such work by lightening considerably the burden of lecturing work in the several colleges, which at present have each to provide a complete course of lectures.

HOLME, JAMES W.

(*a*) I accept this statement as summing up the main methods and functions of university education. In Bengal, however, it cannot be said that such an ideal

has been attained. At present, "university training," *i.e.*, that training the curriculum of which the University defines, and the results of which it examines, may be taken to start after a student's Matriculation, and to continue under the newly constituted post-graduate Council, till his graduation as a master in some faculty. Thus, at a rough estimate there will be at any one time, say 15,000 students receiving this university training. The teachers responsible for their instruction and guidance are recruited, with few exceptions, from the English literate population of Bengal, which at a liberal estimate, is some half a million. It would be absurd to think that from so small a body "teachers of first-rate ability and of recognised standing" in the many subjects of the university curriculum can be recruited in such numbers as to give "personal guidance" to such large numbers of students. For this reason I hold that the ideal expressed is not attained, and, moreover, is unattainable in Bengal, so long as students so easily obtain admission to the University.

(*b*) This also I accept. Such an ideal has not been attained in Bengal. Outside Calcutta, and indeed, in many of the colleges in Calcutta the provision for libraries and laboratories is grotesquely small. Indeed, the great majority of students under present conditions are not convinced of the necessity of a library at all, and merely range through a limited series of text-books and bazar-decoctions of text-books as a preparation for their examinations. Here again the question of numbers arises, and, in a greater degree, the scattered control of the University. To provide "well-appointed libraries and laboratories" all over Bengal for the use of vast numbers of students who should use them, is a thing financially impossible, and in the absence of endowments cannot be accomplished through fees or Government grants.

(*c*) There is no large degree of freedom of teaching or of study within the University. Freedom of teaching implies first a much greater ability in the teacher than at present is possible owing to the limitations described in my answer to (*a*) Further, the average lecturer to under-graduate classes in the majority of colleges in Bengal has drifted into his position as a *pis aller;* he has little range of reading outside the limits of the curriculum on which he has himself been examined, and still less enthusiasm for the profession which, indeed, instead of his choosing, has more often than not been thrust upon him as an economic necessity. Freedom of study, again, implies a greater ability on the part of the student to use the English language than he at present, in the vast majority of cases, possesses.

To sum up, I hold that the standard indicated in the question cannot fairly be applied to Bengal. It may be applied justly to university teaching in western Europe, where the whole educational system of any country is a phenomenon of vastly different growth from that in Bengal. It appears to me that to apply the standards say of English university education to Bengal ignores the fundamental difference that the English system has been one of slow and in many ways fortuitous growth. And in addition the culture that it has fostered was a culture shared by the nations of western Europe in general, based upon a common religion, and an economic system in many ways common. The educational system of Bengal, or at least that part of it which leads up to and includes the university training, is a system which imposes from outside an alien world of ideas and imparts them in a strange tongue. The system is still in its infancy; though a thing of rapid growth in popularity it has become so only because it has seemed to be the only path to necessary employment to a class in which all tradition, sentiment and desire is against manual or commercial labour. Further, that class of student largely represented in English universities—I mean the class which undergoes such a training purely for its cultural value—is, from what I can gather, almost non-existent in Bengal. I have for the last few years talked a good deal with the students who come to me after graduation as Bachelors, for admission into M.A. classes. In the vast majority of cases they have mapped their career out as follows. If they obtain a reasonably high position in the M.A. examination, they look to a post in the Executive Civil Service. As a second resort, they read law for one year of their two years' post-graduate course. If unsuccessful in the M.A. examination, they will accept some teaching post, in a high school or a private

college, which will support them during their further reading of law. Thus they look upon their university training as solely leading to a career in life, their capacity for which will be largely judged by examination results. In consequence, the passing of an examination bulks largest, to the exclusion of other ideals, in their six years career in college. If they can do this without "personal guidance," "well-appointed libraries and laboratories" and "freedom of study," they are perfectly content.

HOLMES, Rev. W. H. G.

(*a*), (*b*), (*c*), and (*d*). I should answer in the affirmative.

I believe that the ideal neither is attained nor is it attainable *under the existing system in Bengal.*

My reasons are implicit in the answer to question 1. The numbers in the colleges present there because they know no other way of getting their living, make it impossible

HOSSAIN, WAHED.

(*a*) It is very desirable that students should be placed under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects. Personal guidance does not necessarily involve residing with a teacher. If so, then under the existing system in Bengal this ideal is attainable to some extent. Efforts are being made to have a hostel for each college, and Government is also making large grants for the purpose. It may fairly be expected that every college will have a hostel of its own within a measurable distance of time. Now, if teachers of recognised standing in their subjects are available, they may keep their pupils under their personal guidance, either residing in the hostels, or spending a few hours with them, and thereby inspiring them with zeal and confidence in their respective sphere of work.

But the dearth of such teachers presents a great difficulty in the way of realising the ideal. Unless and until teachers or professors of proved merit and ability whose inspiring personality can exercise wholesome influence upon their pupils are available, we shall have to wait patiently. It is not at all desirable to place a student under the personal guidance of a teacher whose ability, manners and mode of thought are open to criticism, or fail to inspire the student with zeal and enthusiasm.

(*b*) Good libraries and laboratories are necessary according to the nature of the subjects taught in a college. But a costly library or laboratory is not a necessary appendage of every college. It is not the costly library which supplies the requirements of a true scholar, but a good library well-stocked with books of references and works of great authors of old and modern times.

As to laboratories, there has been a demand for them in Bengal. Post-graduate scholars engaged in research-work do not get full opportunities of carrying on their researches for want of good laboratories. Those who have been favourably placed and get the opportunity, have shown good work. The post-graduate system of studies under the Calcutta University, should be encouraged by supplying the demand. If full opportunity and proper encouragement be given to students and post-graduate scholars, the ideal set forth in this question will be attainable in the near future.

(*c*) A large degree of freedom of teaching and of study is necessary. At present great attention is paid to too many exercises and examinations which inevitably lead to cramming and the teacher is more engaged in coaching the student to enable him to obtain pass marks than in inducing him to take to real study. There should be a proper adjustment of time between study and coaching. This may be done if the fear of too many examinations can be avoided, and a lively interest is created in the mind of the student for study by the curtailment of numerous text-books.

HOSSAIN, WAHED—*contd*;—HOWARD, Mrs. G. L. C.—HUNTER, M.

(*d*) It is very desirable that teachers should have sufficient leisure to pursue independent investigation in their own subjects, but this should not be allowed at the cost of teaching. I know of certain professors who devoted much of their time to antiquarian researches and philological investigation at the cost of their class-lectures. Such an attitude of indifference to teaching is not at all commendable in a teacher.

But as a general rule this ideal appears to be unattainable under the existing system in Bengal (also in other provinces) for the following reasons:—

(*a*) majority of teachers are hardly competent to carry on independent investigation in their own subjects;

(*b*) those who are inclined to do so, do not receive encouragement; moreover, their poor pay does not allow them to spend anything on the subject of investigation;

(*c*) their prospect is too poor to inspire them with any degree of enthusiasm for the work of an independent investigation.

It would not be correct to hold that the standard indicated in the question cannot be fairly applied. If the system of education is remodelled, if the profession of teaching is made attractive for competent men, and if Government gives proper encouragement by improving the pay and prospect of teachers, the ideal I think will be attainable under the existing conditions of Bengal.

HOWARD, Mrs. G. L. C.

(*a*), (*b*), (*c*) and (*d*) I am in complete agreement but I should like to point out that in my opinion advanced science students (those studying for the B.Sc. and higher examinations) should not only have *access* to well appointed libraries but should also have power to borrow books including certain periodicals. Libraries are generally open only in daylight hours during which a science student often has a large amount of laboratory work to perform. This has been found to be a difficulty at the Research Institute at Pusa. To be of any real value, access to a library for science students must include the power to borrow. In some libraries this is possible if the request is countersigned by the professor under whom the student is working, but I do not think this is a good plan as students are inclined only to ask for books directly connected with the lectures or those specially recommended. To encourage students to independence of work and of thought, they should be able to borrow freely. The signature of a tutor at the beginning of each term or a monetary deposit should be a sufficient guarantee that the privilege is not abused. Libraries are naturally anxious to preserve their books, but this after all is only one function of a library and science books quickly get out of date.

The case of periodicals is more difficult, but I feel strongly that students should have access to current literature. The case might be met by duplicating a few of the periodicals in special sectional libraries as is done at Cambridge or students might be allowed to borrow English periodicals not more than five years old. These can generally be replaced without difficulty and in India only those published in English would be in demand.

HUNTER, M.

(*a*) The best students should undoubtedly be under the guidance of teachers of the highest standard, particularly in the highest classes, but for the ordinary students this does not seem to me to be essential. At the same time it is of great value for the students in the junior classes to be taken for a part of their work in each subject by senior teachers of very high standing; this in fact ought to be done in every college, as it adds greatly to the self-respect and enthusiasm of the students.

(*b*) Access to well-appointed libraries is desirable for all students and essential for the higher students. The majority of pass students will of course make little or no

use of a library, but the brighter junior students, who may be expected to do well later on, should be encouraged in every way to read as widely as possible.

(*c*) Theoretically, there should be for the highest teaching a very large degree of freedom, but in a university composed largely of affiliated colleges there will always be considerable difficulty in permitting this, as for its success it depends almost entirely on the possession of very high qualifications on the part of the teacher, hence it could only be granted to a few teachers and much friction and ill-feeling would naturally arise from granting it to one teacher and refusing it to another.

(*d*) That teachers should have leisure for study and research in their own subjects is an axiom, but in my own college the heavy routine work which falls on all the members of the staff forbids this, and I believe the same applies to practically all the colleges affiliated to the University.

HUNTER, MARK.

(*a*), (*b*), (*c*) and (*d*) All these things I steadfastly believe.

I know nothing at first hand of educational conditions in Bengal, In Madras, I think we may honestly assert that those who during the last ten or twelve years have been chiefly responsible for the working of the University have kept these principles steadily in view and have striven, so far as circumstances allowed, to realise them in practice. Judged by an ideal standard the thing accomplished is no doubt small enough; contrasted with what obtained a quarter of a century back, the accomplishment is not inconsiderable.

(*a*) 'Teachers of first-rate ability and of recognised standing' very few of us would claim to be, but on the whole there has been much improvement in the qualifications possessed by college lecturers in small colleges as well as large, and the more important institutions may claim, on the whole, to be staffed throughout by men who 'know their subjects.'

(*b*) The larger colleges have laboratories which, I understand, scientists would recognise as good, and in most of the smaller colleges the laboratories are at least equal to actual requirements. Much the same may be said of college libraries, and we have instituted a University Library, one of the chief objects of which is to provide students with literature of a specialised character such as college libraries cannot fairly be expected to provide to any very large or comprehensive extent.

(*c*) I am not sure what exactly is the 'freedom of teaching' here contemplated. Freedom is necessarily circumscribed by courses laid down, by the University, but within these limits there is, I believe, a range sufficiently wide, and there is nothing in the *system* which need restrict it. So also of 'freedom of study.' There is nothing in the system inherently antagonistic to it. On the other hand it was precisely the aim of those who devised the present courses and examinations to set the student free from the tyranny of the lecture room, the hand-book and the annotated 'text,' and to encourage individual effort and, according to faculty and opportunity, independent investigation. Something has been achieved in this direction, though the old traditions are still undoubtedly strong; but no more change of system is likely to counteract them. (See my answer to question 9.)

(*d*) It is unfortunately a fact that few college lecturers have much time for independent investigation. If a lecturer keeps himself fairly well abreast of his subject it is, in general, about as much as he can do. Most lecturers have two many elementary and 'pass' classes to conduct, and those who have attained some prominence in the University usually find that they have to devote all the time they can spare from college duties to university work of an administrative character. Without introducing changes of a revolutionary nature some scheme might be devised under which college lecturers who have proved their capacity for independent investigation and higher teaching should be relieved of the burden of elementary work, required to undertake only a moderate quantity of higher teaching, and so be set

free for 'research.' They might be given the status of 'University' lecturers or even 'Professors,' and grants might be made to the colleges to which they belong to enable these colleges to make provision for the elementary or pass work surrendered by the new university lecturers. Where the necessary funds are to come from is another question, which I am unable to answer.

HUQ, The Hon'ble Maulvi A. K. FUZLUL, Khan Bahadur.

(*a*), (*b*), (*c*) and (*d*) My answer to the question indicated by these sub-heads is in the affirmative.

I am of opinion that the ideal has not been attained nor is it attainable under the existing system in Bengal.

In view of the above answer, so far as I am concerned, the last question does not arise.

HUQUE, M. AZIZUL.

(*a*) Yes, but the test of ability should be not so much in the depth of their own personal knowledge as in the extent of their being able to convey their knowledge to the students and also in the extent of their being able to influence them by their personality, regard being paid to the fact that subjects taught are often always new to them and the students are Indians who have their own notions of discipline and character. Much depends on the personal equation of the teachers and I would be very cautious to try any experiment on a large scale, unless I am certain that I can always find teachers of real first-rate ability. This would require the thorough overhauling of the educational system; at the same time I am strongly against the plea of first-rate ability being made the pretext of importing more Europeans, though I would advocate a larger number of Indians with European training.

(*b*). Yes; they should be open alike to students and teachers.

(*c*) It is doubtful whether we can all thoroughly accept the standard without making a violent centrifugal action. Any freedom to be allowed to teachers must be strictly within limits and under very real and effective supervision. At the same time, I would allow a very large degree of freedom of study to post-graduate students after laying down some general outlines in study and method.

(*d*) Yes, but not all. Only those who show sufficient ability in such investigation. Investigation should not be a pretence for idleness and must be commensurate with time devoted. At the same time, full freedom of teaching cannot always be granted to the teachers who are pure products of European universities and fresh to this country. They are at that stage foreign to the needs of Indian students.

Under the existing system, the standards indicated above cannot fairly be attained so long as the private colleges are not richly endowed or financed. The system involves the appointment of a better type and larger number of teachers, necessitating larger financial outlay.

HUQUE, KAZI IMDADUL.

The ideal of a University, as defined in this question, does not seem to be attainable under the existing circumstances in Bengal.

(*a*) Men of first-rate ability are not always available for the profession of teaching. There being other more paying lines in the public service or in private professions, the best men often go away, leaving teaching for such men as are only second or third rate (I do not mean *class* of university degrees), who, again, in most cases, adopt teaching as a necessity for the

time being, anxious to go away as soon as some opening elsewhere holds out to them better prospects.

(*b*) Sufficient funds are not available for furnishing colleges everywhere in Bengal with well-appointed libraries and laboratories. There are, in fact, only a few colleges in which the ideal has been approached in this respect.

(*c*) Freedom of teaching and of study is not possible so long as the University lays down a hard and fast course of studies with a prescribed list of text-books from which all examination questions are to be set. Moreover, the passing of an examination is the ruling ideal in the country; so that nothing is studied or cared for that is not expected to be set as a question in the examination. Such a state of things can never make freedom of teaching and of study possible. It seems to be necessary that the University should reform its system of examinations and that the public should view teaching as more important than examination.

(*d*) In most cases the teachers in colleges seem to be overworked and ill-paid. The number of well-paid teachers ought to be considerably increased so that they may have less teaching work and more leisure for study and investigation; but under the present financial condition of colleges, this is rather impossible.

HUSAIN, The Hon'ble MIAN MUHAMMAD FAZLI, Khan Bahadur.

(*a*), (*b*), (*c*) and (*d*) University training strictly so called does involve all these things.

This is the ideal. Efforts should be made to give real university training after the Intermediate, and only to those who are really fit to benefit from an advanced course. For this class—honours men in university towns—a genuine effort should be made, to give them real professors, good libraries, fellowships, in short real university life. India should be able to afford one expensive teaching university in each province. Side by side with this teaching university, we require a university of the type we have in India. It is not bad altogether. In fact it is doing very useful work, and is gradually improving the affiliated colleges. Each province is a country by itself, and financially can't afford more than one teaching university, but wants any number of colleges in its districts. It is now recognised that such knowledge as is required in Indian universities, though it is nothing like what it ought to be, is still much better than nothing. Inasmuch as the country cannot afford to spend very much on higher education, efforts should be directed towards making the very best arrangements for the best men, and adequate arrangements for all who seek higher or college education, *i.e.*, for pass degrees.

I know practically nothing about Bengal or Calcutta, but in Lahore we are trying to give practical shape to this scheme. Divide the pupils into two classes; let there be a teaching university for honours men in Lahore; let pass men go on with the present curricula simplified so that the pass students may derive full benefit from it.

HYDARI, M. A. N.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is attainable in India provided sufficient resources are made available, and are placed at the disposal of an agency which will make the best use of them, with a regard only for the highest intellectual and moral interests of India irrespective of any other consideration.

IBRAHIM, Khan Bahadur MUHAMMAD.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is not attained, neither is it attainable under the existing university system in Bengal.

(*a*) Teachers are not well remunerated, and consequently the best men are not drawn to the profession.

IBRAHIM, Khan Bahadur MUHAMMAD—*contd.*—IMAM, The Hon'ble Justice Sir ALI.

(*b*) Libraries and laboratories scarcely exist in many institutions under the University. To remedy this defect the university should have a library and a laboratory for the use of the teachers and students of all schools and colleges in the University town and help the authorities of the colleges and schools of the mofussil as well the University town to furnish the libraries and laboratories with the necessary books and instruments without which the institution should not be recognised by the University.

(*c*) The hard and fast rules and regulations of the University and the stereotyped curricula, notwithstanding their advantages of uniformity of teaching and commonest standard of examination have this great drawback that they do not contribute to the growth of particular schools of thought and that, they do not leave any choice to the students after the primary and secondary stages are passed to follow exclusively a course of study which suits the natural bent of their minds. To remedy this evil, option should be given to students to choose between subjects not as it is done now-a-days in the matriculation or intermediate stages, but only at the stage of appearing for the degree examination. Either option of choice should be allowed for the degree examination alone or the standard of the matriculation examination should to be made higher by introducing in its curricula elementary science, mathematics, including the present additional course, mensuration, history and geography as compulsory subjects. Premature specialisation has contributed more to defeat its object than to help in its attainment. As at present, it is possible for one to obtain the highest degree in arts or science, without knowing where Mecca is situated and where Constantinople is and who Akbar was and who was the builder of the Taj Mahal. It goes, therefore, without saying that the attainment of a minimum knowledge of some important branches of study at least, such as those mentioned above must be insisted upon as necessary for a matriculation certificate.

(*d*) Members of the Education Department, specially the teachers and professors of schools and colleges, are proverbially poor in this country and so instead of pursuing independent investigation in their own subjects they try generally to utilise whatever leisure is granted them in the pursuit of some other work which they find to be more remunerative. A judicious increase of the salary of teachers and professors is the only remedy for this defect.

IMAM, The Hon'ble Justice Sir ALI.

My opinion is that the ideal is not either attained or attainable under the existing system in Bengal. It is not attainable because the University is only to a limited extent a teaching body but is generally an examining body. Further the number of undergraduates studying for the University examinations at centres hundreds of miles apart from each other makes it impossible on the ground of cost alone to obtain teachers of first-rate ability and recognised standing in their subject. The same reason applies to the maintenance of libraries and laboratories. The control of the University on the various teaching institutions is confined to the attainment by these institutions of a minimum level of proficiency in the teachers and a minimum standard of libraries and laboratories. Even this minimum is not always attained. For the maintaining of this minimum the University from time to time sends out inspecting officers who can only apply themselves in the time at their disposal to finding out the more mechanical sides of the teaching profession. That is to say, that the libraries contain the prescribed standard of books and the laboratories the prescribed standard of apparatus for the teaching of various sciences. And secondly, that the teachers possess the minimum academical qualifications. The art of teaching is a purely personal art in which success depends not so much on academical qualifications, but upon the personal equation of the individual teacher. There is no machinery by which the requisite personal magnetism can be guaranteed in the teachers. This can only be obtained by offering high emoluments to those engaged in the profession of teaching so as to attract men of the highest calibre and then leave it to the teachers

IMAM The Hon'ble Justice Sir Ali.—*contd.*—Indian Association, Calcutta—IRFAN, Maulvi MOHAMMAD—IRONS, Miss M. V.

to do the rest. Even in the universities of Europe and America where professors are so well paid the ideal aimed at is not always attained. A Max Muller, a Tindell and a Hegel cannot be manufactured at command. Leaving such men aside, the average type of the Oxford "don" is the result of years of growth and gathering in of status and prestige. The pay of the Indian professor of Indian birth is too small under the existing system to attract the best men of the universities. Their status and prestige compared to the men of the Indian Educational Service recruited mostly from England is still less attractive. A system that places Jadunath Sarkar, P. C. Roy and J. C. Bose on a level lower than that of the newest recruit from England must be done away with, and all teachers and professors should be graded on merit and service alone. How far this is attainable under the present system of Government, this is neither the time nor the place to insist upon. But I would draw the attention of the Commissioners to this weak spot in the present educational policy of the Government of India and leave to them its solution.

Indian Association, Calcutta.

(*a*) Yes. Preferably the teacher should belong to their own nationality as they would understand them best and sympathise with them.
(*b*) Yes.
(*c*) Yes.
(*d*) Yes. Provided they have the capacity and the enthusiasm for such work.

The ideal is not attained nor is it attainable in Bengal under the existing system. This is chiefly due to the absence of the conditions indicated in (*a*), (*b*), (*c*) and (*d*) of the question.

IRFAN, Maulvi MOHAMMAD.

(*a*), (*b*), (*c*) and (*d*). Yes. University training at its best must involve—

The ideal is never attained nor attainable under the existing system in Bengal. Under the present federal University which incorporates a large number of colleges in different places throughout Bengal, it is not financially practicable to provide (*a*), (*b*), (*c*) and (*d*) to all of them. The difficulty can only be solved if teaching and residential universities be established at different centres of the Presidency of Bengal. If this is not permitted by the finances let the experiment be tried for the present only in Calcutta and Dacca. Such universities should be of a mono-college type.

IRONS, Miss M. V.

(*a*) Yes, the number of students in a college should be such that they should come under the personal influence of such teachers.
(*b*) Both teachers and students should have access to libraries and laboratories.
(*c*) The course of teaching and of study should be capable of expansion: there should be more elasticity both in the choice and treatment of subjects.
(*d*) It is of supreme importance that the teachers should have sufficient leisure to pursue their own investigations.

Efforts should be made to have a good library and laboratory in each town where colleges are situated. Teachers and students taking higher courses should have access to them. For ordinary students the school and college library or laboratory should be equipped according to the curriculum or course.

This view is not attainable under the existing system in Bengal. The B.A. course, for instance, is too long and stereotyped to admit of either (*c*) or (*d*) being usually followed.

ISMAIL, Khan Bahadur MOHAMMAD—IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI—JALIL, ABDUL—JENKINS, WALTER A.

ISMAIL, Khan Bahadur MOHAMMAD.

(*a*), (*b*), (*c*) and (*d*) Yes.

The standard cannot be applied to the University system in Bengal. There are very few first rate teachers and they have hardly any opportunity of independent investigation in any particular branch of learning.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

(*a*) My remarks upon question 1 are an answer to this.

(*b*) This is an absolute necessity.

(*c*) I am clearly of opinion that efficient teachers are hampered in their work by being asked to conform to stereotyped rules. There is only deterioration in them, but the students under them are hardly able to develop their facilities in the right direction. I do consider that one of the important uses to which laboratories and libraries should be put must be in the direction of enabling teachers to utilise them in carrying out independent investigations in the subjects in which they have been appointed to lecture. I see no reason why either in Bengal or in Madras the deal indicated should not be attained, provided the remarks which I made in connection with question 1 are borne in mind.

JALIL, ABDUL.

(*a*), (*b*), (*c*) and (*d*) Yes.

This ideal of the functions of a university is attainable under the present system, provided it is modified in certain respects, especially those bearing on the relations between the teacher and the taught, and the influence of the former on the life outside the college of the latter, and also provided that those in the Education Department are allowed better pay and status.

The above is indeed a high ideal but the mofussil colleges should not be put to this severe test in all its bearings. The beginning should be made at Calcutta itself and the colleges outside should be given every encouragement to follow, by allotting sufficient funds from the University and by inviting the public to co-operate in the provision of funds and by making provision for the frequent intercourse of the professors and students in them with those in Calcutta. This, by the way, would greatly facilitate matters, in the near future, for establishing universities in particular centres of population in the Presidency.

JENKINS, WALTER A.

(*a*), (*b*), (*c*) and (*d*) These conditions—all of which are necessary for the best university training—are not attained in Bengal, but there is no real reason why they should not.

Granted that a body of *able* and *enthusiastic* workers can be gathered together and that conditions are such as to help them present conditions could be vastly improved.

(*a*) and (*b*) need no comment.

(*c*) Under the present system there is no freedom at all. Everything is stereotyped and originality is stifled. The present system of elementary standards—constantly recurring questions and aversion of modern work prohibits the individuality of the teacher from finding its full expression. The system of paper-setting by people not concerned in teaching a subject ensures conformity to type and adherence to former standards.

(*d*) It is essential that teachers be given time for their own work. No one keenly interested in their subject can remain so if contact with modern work is lost and facilities for research are not obtained.

I would suggest that a professor not only be provided with equipment and time for research but that in the case of science professors a research assistant be provided. This assistant would be able to work under the guidance of the professor and to carry on experiments during lecture periods and periods of enforced absence on the part of the professor. In this respect I would point out that a European in particular is under considerable disadvantages as far as practical work is concerned during the summer months. A darkened and stifling laboratory in which experimental conditions prohibit the use of fans and opened windows and doors is not conducive to prolonged and successful work. An Indian assistant to whom the conditions are more natural would be an invaluable help. Moreover, such an assistantship would be very acceptable to some of the more able M.Sc. students who have difficulty in finding an outlet for their talents.

Frequent visits and study in a European country or America would likewise be of great value. If for example six months' study leave were granted every three years a stimulus to keep in touch with modern work would be given.

Facilities ought also to be given for meeting and exchanging views with those interested in one's own subject in other parts of India.

At present (*d*) is not attainable because of lack of the above facilities and:—

(i) Large amount of teaching and executive work owing to shortness of staffs.
(ii) Fulfilment of conditions of service which demand time, *e.g.*, learning of a foreign language while pursuing one's duties.

In connection with (*ii*) it may not be out of place to suggest that while agreeing that it is desirable that those residing in a foreign country should learn the language of the country it seems to me that to insist on its being learned under present conditions makes the attainment of (*d*) impossible.

If officers at the commencement of their service were sent to a language school for about nine months and given an opportunity of acquiring a *useful* knowledge of the language the system would be much more satisfactory.

JENNINGS, The Hon'ble Mr. J. G.

(*c*) As regards freedom of teaching and study, I consider that a distinction must be made between the treatment of intermediate and pass work on the one hand and honours and post-graduate teaching on the other. In pass teaching there would seem to be no great scope for liberty of teaching so far as the course to be covered is concerned. The acquisition of a certain amount of information has to be insisted upon, though the right sort of teacher will manage to vary his treatment of somewhat sparse material. But in honours and post-graduate teaching the case is different. The minimum of information is presumably already secured, and for the rest those teaching the subject should have as free a hand as possible. Those teaching a special branch of a subject should form a board or committee or sub-faculty and dominate the selection of the courses, the teaching, and the examinations, and the external interference should be as little as possible, though the University may lay down general conditions and may require that external examiners should be associated with the Board in order to prevent loss of touch with other learned bodies and to have sufficient assurance of equivalence of standards.

Further, I consider that the Faculties should include more teachers than at present is usual, and in the Draft Regulations of Patna University I have suggested that the Syndicate should have the right of appointing such teachers as it thinks suitable to each Faculty in addition to the Fellows elected to the Faculty by the Senate. Similarly, I consider that the Syndicate might have the power of adding teachers and specialists to the Boards of Studies, selected by the Faculties, and the selection would doubtless be made largely from the Sub-Faculties mentioned above. The Boards of Examiners (and Moderators) should be appointed mainly from the Faculties and Sub-Faculties thus formed. The

JENNINGS, The Hon'ble Mr. J. G.—*contd.*—JEVONS, H. STANLEY—JOHSTON, Rev. A. B.—JONES, C. E. W.

object should be to assure the position of teachers and specialists in the University and their material influence over the courses of study and the examinations. These steps should secure that degree of liberty which is necessary to inspire the individual teacher, without loss of university control.

JEVONS, H. STANLEY.

(*a*), (*b*), (*c*) and (*d*) I fully share the views expressed.

The ideal is not now attained in Bengal, and cannot be, in my opinion, under the existing system. I think the standard indicated can and should be applied.

JOHNSTON, Rev. A. B.

(*d*) The Professors of a subject ought to get occasional conferences together. The Regius professors might do a most valuable work by suggesting pieces of first-hand work or of research, which would be worth doing. Regius professors ought to guide and inspire ordinary college professors. At present they are hardly in touch with them at all.

Two terms are too long the rains and spring terms, lasting for three or four months; while the term from the Pujas to Christmas is often rather a farce lasting only for about a month. A term should last for two months. If a strong man could play Julius Cæsar in Calcutta and set the Pujas by the Sun to fall between the 15th of September and the 15th October it would be a great gain. Longer vacations are needed for the preparation of good lectures. The present arrangements simply demand school work.

JONES, C. E. W.

(*a*), (*b*), (*c*) and (*d*) I consider that the conditions of university training set forth are essential.

My experience of the conditions of university education in Bengal is confined to a week's tour of the colleges and university institutions of Calcutta and to visits to one of two colleges outside, and I feel some diffidence in offering an opinion on this subject so far as Bengal is concerned. In view of the great strides which the University itself and some of the colleges in Calcutta have taken in the direction of providing advanced teaching, and of the comparative backwardness of the majority of the mofussil colleges, I should be inclined to say that the institutions in Calcutta and outside should be dealt with separately in this connection.

As regards the institutions in Calcutta, I should say that the ideal set forth has not been attained, but is attainable. In a great city like Calcutta, it should be possible to gather together a body of teachers of the highest ability and experience to whom considerable freedom in teaching should be allowed, to provide the requisite libraries and laboratories and to create the conditions necessary for independent investigation and research. Something has already been done in these directions, but a great deal more is required. It may be noted, however, that, with existing standards of admission to the University, itwould be unnecessary to provide teachers of the highest standing for the bulk of the students. I deal with this in reply to question 8.

As regards the mofussil colleges, I feel that it is impossible to realise this ideal for reasons given in answer to question 1. I understand that the condition of the majority of mofussil colleges in Bengal is very much on a par with that of mofussil colleges in other parts of India.

JONES, T. CUTHBERTSON—KAR, SITES CHANDRA—KARIM, Maulvi ABDUL—KARVE, D. K.

JONES, T. CUTHBERTSON.

(*a*), (*b*), (*c*) and (*d*) Yes. I consider the conditions are essential to university training This ideal has not, in my opinion, been attained in Bengal because each college strives to become as far as possible a university in which all subjects are taught instead of confining itself to those few subjects which it can teach well. This is because many colleges being insufficiently endowed have to make what they can out of fees, and so are unwilling to reduce the number of their students by refusing to teach any combination of subjects which the students desire. I consider that university training at its best can only be imparted where the constituent colleges are situated within easy walking distances of one another, and where the organisation is such that a student of any college can attend lectures either at his own or any other college or at the university centre without tiresome formalities, extra expense, or personal inconvenience. Only in this way can the individual student be certain of getting the best instruction the University affords in any subject in which he is interested.

In Calcutta as far as I am aware these conditions do not prevail for various reasons among which might be mentioned the crowded state of the different colleges making it difficult to receive outsiders in any class, different rates of fees, and the absence of any scheme for division of labour and exchange of lectures between the different colleges, although some of them are situated near one another. In the mofussil lack of sufficient funds and the isolation of colleges make it impossible for anything approaching the ideal of university training to come into existence.

KAR, SITES CHANDRA.

(*a*), (*b*), (*c*) and (*d*) I share the view expressed.

No, the ideal is not attained, but may be attained if certain changes are introduced in the existing system. I would recommend, for instance, the exclusion of the present intermediate arts course from the scope of the University and that the whole of the course for graduation should be undertaken by the University. This would involve the incorporation of the existing first-grade colleges in the University, and the creation of a Council of Graduate Studies on the lines of the same for post-graduate studies.

The maximum number of students at present allowed for a single lecture is 150. I think this should be reduced to 50 only, and more teachers should be provided in consequence.

KARIM, Maulvi ABDUL.

(*a*), (*b*), (*c*) and (*d*) The University training at its best involves what has been stated in. The ideal is not attained under the existing system in Bengal, but there is no reason why it should be unattainable.

KARVE, D. K.

(*a*), (*b*), (*c*) and (*d*) The question gives practically the ideal of university education which every one must admit to be desirable.

But this ideal is that of a teaching university. In this country there is, as yet, no teaching university as such. The colleges affiliated to the universities do the work of teaching, but the staffs of these colleges are not up to the mark. It is very difficult to get men of first-rate ability from foreign countries without paying them handsomely. But financially this is not possible. The only remedy to improve the staff of these colleges is to man them by Indians of first-rate ability after they have been sent to Europe and America for further study. These Indians will not be temporary professors looking to the day of their retirement and retiring as quickly as rules permit, but they will have an abiding interest in university education and if they are afforded facilities for investigation they are more likely to do this than the existing staff of colleges.

KHAN, ABUL HASHEM—KHAN, MOHOMED HABIBUR RAHMAN, SHIRWANI—KHASTGIR, KARUNAMAY—KO, TAW SEIN.

KHAN, ABUL HASHEM.

(*a*), (*b*), (*c*), and (*d*) I consider that university training at its best involves among others the four conditions mentioned.

In my opinion the ideal is not attained at present under the existing system. But I consider that even under the existing system the ideal is to a certain degree attainable in some of the subjects of university study, *e.g.*, vernacular literature, history of India.

KHAN, MOHOMED HABIBUR RAHMAN, SHIRWANI.

(*a*), (*b*), (*c*) and (*d*) Yes.

Not attainable. Wide territorial jurisdiction makes a corporate intellectual life impossible.

KHASTGIR, KARUNAMAY.

(*a*), (*b*), (*c*) and (*d*). In general, I share the view put forth in this question regarding the functions of a university. But I am of opinion that these functions of a university apply more to the post-graduate than to the under-graduate students. Even in the case of post-graduate students, the ideals set forth in the questions are not attained. The reasons are not far to seek. First of all, I must point out that all the post-graduate students have not the capacity and intention of profiting by the highest teaching. The majority of them are not earnest students of advanced studies. I have already stated in my reply to question 1 that advanced students get no assistance or encouragement from their teachers in the matter of doing any independent work during their post-graduate career, except in the case of one or two subjects. In chemistry, some amount of original work has been done by some post-graduate students. Our advanced students are capable of original work of a very high order, if they get assistance and encouragement from their teachers. This fact is well borne out by the excellent work that has been done by some of the distinguished graduates of our university under the guidance of Sir P. C. Roy and Dr. Ganesh Prasad.

There is no arrangement for seminar work for all post-graduate students in those subjects in which seminar work is necessary. It is not enough for the students to meet their teachers in the class-room only at lectures. It is highly important that students and teachers should come into closer contact with one another in the seminars, libraries and laboratories. It is in these places that the students can point out their individual difficulties and obtain personal guidance and help from their teachers. But, at present, such opportunities hardly present themselves to the students. The teachers in almost all the colleges are so much overworked with under-graduate work that they hardly find time and scope for pursuing independent investigation in their subject. If the teachers do research work the students should draw their inspiration from them and try to emulate them. I have already pointed out that there is no freedom of teaching and study. The sole object of university education being to obtain the highest degree of the University for the purpose of obtaining admission into the public services and professions, the teachers as well as the students pay their entire attention to the preparation of the prescribed course or syllabus which limits the bounds of knowledge within a very narrow compass.

KO, TAW SEIN.

The standard indicated as to the functions of a university is too high, and cannot be attained under the existing system in Bengal:—

(*a*) Teachers of first-rate ability and of recognised standing in their subjects are extremely rare. It will be very expensive to engage them from Europe. If

Ko, Taw Sein—*contd.*—Kundu, Purnachandra—Lahiri, Becharam—Lahiri, Gopal Chandra.

fellowships or research scholarships are instituted, such teachers may be forthcoming during the next generation or two.

(*b*) Well-appointed libraries and laboratories are a question of money. Religious endowments or huge subventions are required to maintain them; and these latter are now absent.

(*c*) The regulations of the University are now too rigid. If they are relaxed, some degree of freedom may be attained in the domain of teaching and study.

(*d*) Owing to the inefficiency of the pupils, especially in their knowledge of English, teachers have no sufficient leisure to pursue independent investigation in their own subjects. Both professors and lecturers have to come down to the level of their pupils.

Kundu, Purnachandra.

(*a*), (*b*), (*c*) and (*d*) I hold the view that the functions of a university are as stated.

These ideal conditions are neither attained nor attainable *in the majority of colleges* on account of:—

(i) Paucity of teachers of first-rate ability, the profession of teaching with its poor remuneration and want of prestige in this country not being able to attract any reasonable proportion of the first-rate scholars that our University produces,

(ii) Want of funds.

(iii) Lack of freedom of teaching and of study.

The only concern of the students being to pass the examinations, they are unwilling to pay attention to anything which is not strictly required by the syllabus or by the type of questions likely to be set.

Lahiri, Becharam.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is not attained nor attainable. Want of funds, and teachers of recognised ability and exemplary character.

I do not like to suggest for a moment that the cost and expenses of the guardians for educating their boys and girls should be raised any further. They have been already raised very high, regard being had to the fact that poverty is the chronic condition of the overwhelming majority of the people.

Towards improvement I also suggest that in all the schools good manners, etiquette and moral lessons may be specially taught by competent teachers.

Lahiri, Gopal Chandra.

(*a*), (*b*), (*c*) and (*d*) The conditions enumerated are certainly necessary for the attainment of the best results of university training.

But the existing arrangements are not suitable for the purpose. Residential colleges are necessary, and students should live in hostels under the personal care and guidance of their professors. The existing colleges under the Calcutta University are unfit for the application of the standard indicated. The professors and their pupils do not live in close touch with one another. The same professor often teaches his subject in more than two classes, and every one of these classes is often unmanageably heavy. Students have to study up to the B.A. standard, subjects which are not all allied to one another, and are necessarily taught by different professors.

Under the present system there is scarcely any room for the exercise of freedom in teaching and studies. Teachers are required to finish a fixed course of studies in order to pass their students in the university examinations, and the students also have to confine their energies only to the books of their prescribed course.

LAHIRY, RANOJIT CHANDRA—LANGLEY, G. H.—LAW, The Hon'ble Rajah RESHEE CASE—LUCAS, Rev. E. D.—MAHALANOBIS, PRASANTA CHANDRA.

LAHIRY, RANOJIT CHANDRA.

This ideal of a university has great resemblance to that of the ancient Brahmacharya Asram. The students were placed under the personal guidance of Gurus, who had sufficient leisure to pursue independent investigation with a large degree of freedom of teaching and study.

This ideal is scarcely attained in the existing system and does not seem to be attainable so long as the University remains mainly examining. There is great want of competent teachers. This want cannot be filled unless the art and science of learning and teaching be given an independent intrinsic value of their own and the teachers be given a higher status and cultivate personal love and affection for their students as was the case with ancient *Rishis*.

LANGLEY, G. H.

(*a*), (*b*), (*c*) and (*d*) Yes.

Besides sufficient leisure it is necessary that teachers should be kept in contact with stimulating intellectual influences. In India the teacher often finds himself entirely cut off from the main currents of thought in his subject, and plunged into an environment which is intellectually enervating. I am, therefore, of opinion that it would be well to give senior lecturers more frequent opportunities of returning to Europe for the purpose of study. Some system should be devised whereby leading teachers are enabled to spend prolonged periods every three or four years in a really stimulating intellectual atmosphere so that their minds may be kept fresh and vigorous.

I do not consider that this ideal is attained under the existing system, for reasons given in reply to question 1. Neither will it be attained unless the system be reformed somewhat on the lines indicated in my reply to question 4.

LAW, The Hon'ble Rajah RESHEE CASE.

(*a*) There can be no two opinions in regard to the desirability of students being placed under the personal guidance of teachers of first-rate ability, but much depends upon what we understand by 'personal-guidance.' If by that is meant that a teacher should not have more than a very limited number of students in his charge in order to exercise personal guidance, I am afraid I cannot endorse that view. In the *tol* system—which is now a recognised system—the teacher has quite a number of students in his charge. I take it that by personal guidance is meant cultivation of a closer and more familiar relationship between the teachers and the taught. That being so, there is no reason why in a poor country like India an attempt should not be made to harmonise what is best in the *tol* system with what we ought to adopt from the West.

(*b*) Yes.

(*c*) Yes.

(*d*) Undoubtedly, or also the teacher himself will have to be behind in proportion as his students advance in laboratory work.

The ideal is practically attained.

LUCAS, Rev. E. D.

(*a*), (*b*), (*c*) and (*d*) Yes. I do not know how far it obtains in Bengal, it does not obtain in the Punjab.

MAHALANOBIS, PRASANTA CHANDRA.

(*a*) Personal guidance is essential at all stages but its need is all the greater in the University. The spread of general information or mere instruction cannot be the highest function of a University.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

The existing system is thoroughly examination—instructional in character and personal guidance is conspicuous by its absence.

The Government Educational Service naturally constitute the norm in Bengal and its influence on ideals is necessarily supreme under the existing political conditions. This service is mainly administrative in character and college professors are Government *officials* first and teachers afterwards. This emphasis on the official aspect is not at all conducive to that intimate personal relationship between teachers and pupil which is so essential in university education. The abolition of compulsory transfers and a thorough separation of the teaching from the inspection or administrative branch of the Government service has become urgently necessary.

Unfortunately, the administrative character of Government service has thoroughly coloured the organisation of practically every private college and a proper development of the social life of the college and the University has become urgently necessary.

Teaching at present being entirely subordinated to the examination, personal guidance is considered almost wholly unnecessary and superfluous and even a bit out of place. A mechanical lesson, if useful from the examination point of view, is considered more satisfactory than an hour's real teaching.

Unfortunately, the complaint that "there is too little direct friendly association between professors and students" remain as real as ever (Report, Indian Universities Commission, 1902). Unless students are given a certain amount of latitude in the voluntary choice of tutors and the general social life of the college is considerably improved, I do not see how this evil can be effectively remedied.

(*b*) Well-equipped libraries and laboratories are, of course, essential for university education, but in a poor country like Bengal, too much stress must not be laid on the buildings and equipment. Professor Sir J. J. Thomson, President, Royal Society, says in this connection :—"I think it a weak point in the universities overseas that so much value is attached to buildings" and he advises that more money should be spent on *men*. (Congress of the Universities of the Empire, 1912. Report, page 60.)

I have got a distinct impression that in this country too much importance has been attached to buildings and equipment, often without any relation to the local educational needs. As a matter of fact it should not be forgotten that for general teaching-work and even for training in research, costly apparatus and expensive instruments might be more of an impediment than otherwise.

As regards buildings, there often seems a deplorable lack of careful planning and in the best interests of university education and in order to prevent waste and in order to increase the efficiency, the University should be in a position to advise individual colleges in this matter.

For advanced work, expensive special apparatus and costly plants are often necessary. In this connection a *general inventory* of all pieces of special apparatus should be kept and different colleges and institutions may be encouraged to "borrow" from and "lend" to one another. It is necessary that some central organisation like the University should undertake this.

Inter-collegiate library catalogues and facilities for the issue of books should also receive the attention of the University. With the very meagre funds at our disposal specialisation in the libraries seems highly desirable, though of course every college should have a good general collection for the use of the under-graduate students.

A more suitable university library building provided with well-lighted reading rooms is necessary. It must of course be situated in a central position.

(*c*) *Freedom of study and teaching* is perhaps *the* greatest essential factor in university education. The Calcutta University must inspire a kind of intellectual renaissance in Bengal and consequently too much emphasis cannot be laid on *Academic Freedom*.

At present there is scarcely any freedom in the proper sense of the word. The *examination* overshadows everything.

[The following remarks apply particularly to the teaching *after* the present intermediate stage, for I am suggesting elsewhere that the University teaching proper

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

should begin from the present third-year stage and that teaching up to the intermediate standard should at once be amalgamated with the higher secondary system.]

Compulsory courses necessarily mean, to a great extent, some kind of routine work and drill instruction. The *rigid percentage* system has hampered the growth of self-dependence and a sense of responsibility which are essential elements of university education. From my own experience both as a student and as a teacher, I am bound to admit that it has also fostered "proxying" to some considerable extent. The effect on the lecture also is almost wholly bad. I do not think it an exaggeration in any way to state that about three-fourths of the class is never seriously interested in the lecture. So that the lecture at present either degenerates into writing "notes" to dictation or not attending at all, on the students' part in a great majority of cases. From the teacher's point of view, too, the presence in the class of a very large number of students who do not really care for the lecture has very considerable damping effects on the teaching. All these have the inevitable tendency to make class work a matter of routine-drill. Thus college work at present has become a mere extension of high school instruction without any of the elements of the highest university teaching in it. Consequently, it is not at all surprising to find that there is considerable truth in the complaint that our college graduates are merely enlarged editions of schoolboys lacking initiative, intellectual power and independence of character.

Of course, I do not wish to lose sight of the fact that "instruction" in the fundamental subject is a necessary foundation for proper university work, but I believe that the proper place for this is the higher secondary stage (corresponding to our present intermediate standard). From this point of view alone it has become urgently necessary to separate the intermediate work from university-teaching proper.

As for university teaching there is no doubt that there is the most complete need in Bengal for "Acamedic Freedom." Panken (Chapters I and II, Book IV, page 265 and following—German universities), I believe, is entirely right in laying great emphasis on this.

In order to secure freedom of study, it should be feasible to allow a certain amount of choice in the selection of university courses and even of lecturers, and the rigidity of the percentage system should be considerably relaxed.

In the technological and professional departments a certain amount of minimum attendance at workshop, practical classes, clinics, etc., must be prescribed but in the Faculties of Arts and Science, the rigid "percentage" system should be modified.

In advanced work, for example, in the M.Sc. work in Physics the percentage system is thoroughly unsatisfactory in its effects on teaching and study. At present every attention seems concentrated towards instilling a certain amount of knowledge into each student. A number of lectures is prescribed with the main purpose of "covering the course", and there is very little scope for proper University teaching.

I do not wish to say that there should not be any courses given with an express intention of "instructing" the student in certain subjects; a certain amount of "drilling" in the handling of tools is necessary everywhere; and such courses must be provided wherever and whenever necessary, but I certainly do hold that the "instructional" method of M.Sc. teaching as carried on at least in the physics department is *not* university education.

Teachers should certainly be given every facility for doing independent work. Unfortunately the teaching work (particularly the routine instruction in the Intermediate classes) is so heavy that very few teachers in our colleges get any opportunity for this.

In order to improve the present condition of things, it is necessary to lessen the instructional work for the full university teachers. This may be done by separating the intermediate from the university work, by combining teaching in certain subjects for both third and fourth years in a single course of lectures and by some well-organised system of apprenticeship in teaching by abler graduates, as part-time lecturers.

Though every facility must certainly be given for independent work, I do not think it proper that *professors* or *assistant professors* of the University should be allowed to devote the whole of their time to research, without participating in the teaching work of the University.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*—MAHASAI, KUMAR KSHITINDRADEB RAI—MAHTAB, The Hon'ble Sir BIJAY CHAND—MAITRA, AKSHAY KUMAR—MAITRA, GOPAL CHANDRA.

There are people whose sole interest lies in research work; a certain number of special *research fellowships* should certainly be endowed for them and it is desirable that the University should do this. But a *professor* must not be merely a research fellow. The highest interests of university education demand this. And the express condition of service in the case of some university professors in Calcutta (in charge of whole departments) that they would not be required to do any teaching work, cannot be encouraged.

MAHASAI, KUMAR KSHITINDRADEB RAI.

(*a*), (*b*), (*c*) and (*d*) There cannot be two opinions that the essential ideals involved in real university training are those stated.

I believe that the ideal is attainable here in Bengal, if the existing system is subjected to modifications as called forth.

MAHTAB, The Hon'ble Sir BIJAY CHAND.

(*a*), (*b*), (*c*) and (*d*) My answer to all the clauses of this question is in the affirmative.

I do not think this ideal is attainable under the existing system in Bengal; for we have not teachers of first-rate ability in all the schools and colleges, neither are there well-appointed libraries and laboratories in all the centres. Under the existing system very few of the students outside Calcutta can be given such opportunities. Unless the teachers are paid much more liberally the University can never secure the services of first-rate men, and unless the University can help to establish and maintain good libraries and laboratories in all its centres no institution (unless it is a Government concern) can have these at its own cost. This requires an enormous outlay at the outset and a large recurring expenditure as well as a remodelling of the existing system. Teachers at present have not sufficient leisure to pursue their independent investigations nor any good opportunity to mix more freely with the students to give them a practical training—this applies with greater force to the teachers of schools.

MAITRA, AKSHAY KUMAR.

(*a*), (*b*), (*c*) and (*d*) University training at its best involves the provisions noted.

That ideal cannot, however, be attained nor is it attainable with the available financial resources which fall short of actual requirements. Teachers of first-rate ability and of recognised standing in their subjects,—well appointed libraries and laboratories,—and freedom of study and teaching may be met with in exceptional cases; but the general rule aims at the attainment of a maximum of good result in the examinations with a minimum of expenditure. In most cases the teaching has, under this system, to be left in the hands of those who have no standing in their subjects. Special studies on the part of teachers cannot under this system receive adequate encouragement.

MAITRA, GOPAL CHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes.

This ideal is under the existing circumstances neither attained nor attainable in this country, mainly for want of funds. The application of this high standard will greatly add to the cost of education and place it beyond the reach of most students. This ideal, however, should always be kept in view so that it may be attained within a reasonable period of time.

MAITRA, HERAMBACHANDRA.

(*a*) In my opinion, the personal guidance of teachers is most needed by students when they are at school. After they have joined a college, the lectures of professors, supplemented by a careful correction of exercise papers and by facilities given to students for having their difficulties explained, ought to be sufficient. Personal guidance is also needed by students engaged in research and in the preparation of theses.

For a long time to come we cannot expect to be able to secure the services of a sufficient number of teachers " of first-rate ability and of recognised standing " to meet the requirements of the country. Such men should of course be engaged by the University and by affiliated institutions as far as practicable. But in a country so poor as India, we must often be content to accept the services of men of moderate attainments as teachers. Besides, a keen sense of duty, a power of clear exposition and an impressive delivery are, as far as I am able to judge, more necessary than profound scholarship in a teacher who does not lecture to advanced students. I may be permitted to add that there are among us many men of first-rate ability who are not of " recognised standing," as they have not received due encouragement and have not been given an opportunity of doing such work as would enable them to distinguish themselves.

(*b*) My answer is in the affirmative. But this applies specially to teachers and advanced students. In the case of under-graduates, the diligent use of a library which would appear too small to those who have the good fortune to be connected with the wealthier universities of the West, would be sufficient.

(*c*) There should be a certain degree of freedom of teaching and study within the limits of the curricula prescribed by the University for its various examinations. The same methods of teaching need not be followed by all professors.

(*d*) Teaching should be the chief duty of the great majority of teachers. It is only university professors and those who have given satisfactory proof of an aptitude for original work that should have sufficient leisure for research and for writing books.

My reasons for holding that the standard indicated in (*a*) cannot be applied to university education in Bengal, are that it would check the spread of education—or, to speak more correctly, confine it within much narrower limits than at present—by making it too costly, and that our resources in men and money are too limited for the adoption of ideals prevailing in countries which are incomparably richer than India. University education is not a luxury that we may do without, but a thing of which we have most pressing need. There is unhappily an impression in some quarters that we in Bengal have had too much of college education, and it needs to be restricted. But the fact is that we are far behind the most civilised nations of the West in this respect. In 1910, in Great Britain and Ireland, the total number of college students, including occasional students and those attending evening classes, was 43,355,* in a population of 45 millions. In Bengal, in 1914-15, there were 15,921,† college students (including medicine, engineering and law), in a population of 45 millions. Both the Government and the educated public ought to do everything in their power to help the spread of education by adapting it to the needs and capacities of various classes of students as well as to secure efficiency of teaching by placing educational institutions on a satisfactory footing. Our ideal should be continued progress in both respects. We should aim at a wide diffusion of useful knowledge and the training up of large numbers of young men for useful careers; and this object should not be lost sight of by us in our efforts to promote scholarship and enable students of exceptional merit to win the highest academic distinctions.

---

* Regular students, 36,808, Evening students, 6,547 } Statesman's Year-Book, 1911, pages 28-29.

† Indian Year Book, 1917, page 407.

MAJUMDAR, BIRAJ MOHAN—MAJUMDAR, PANCHANAN—MAJUMDAR, RAMESH CHANDRA—MAJUMDAR, NARENDRA KUMAR.

MAJUMDAR, BIRAJ MOHAN.

It is a decided advantage to place students under the personal guidance of teachers of first-rate ability and of recognised standing, but such an ideal is not attainable under the existing conditions in Bengal. The very fact that a large number of students desires collegiate education dispells the idea of such personal influence of the teachers over the students. Outside the lecture room, the teachers can hardly exercise any control over their pupils.

MAJUMDAR, PANCHANAN.

(*a*), (*b*), (*c*) and (*d*) I do.

I do not consider that the ideal is fully attained under the existing system, but I think it is attainable with some modifications of the existing system.

(*a*) May easily be attained in the case of hostel students by appointing a professor of unexceptionable character as resident superintendent.

(*b*) May also be attained in their case by making better provision for libraries in the hostels.

(*c*) and (*d*) May be attained to some extent by modifying the present system of examinations.

MAJUMDAR, RAMESH CHANDRA.

(*a*) Yes, but I doubt very much whether the ideal is at present attainable in Bengal. The number of students is large and it would be impossible to provide a sufficient number of teachers so that each student may be under the personal guidance of one of them. On the other hand, I do not advocate the principle of restricting numbers to attain this ideal. The spread of education among the masses is much more important than the restriction of the ideally best education to a few.

(*b*) Yes.

(*c*) Yes (but please see my answer to question 9).

(*d*) Yes. But it is more important for post-graduate teachers than those engaged in under-graduate teaching.

MAJUMDAR, NARENDRA KUMAR.

(*a*) Yes. But affection and sympathy are more essential than personal guidance. European professors of De Rozio's type are, at the present day, conspicuous only by their absence.

(*b*) Yes. Every professor or lecturer should have access to every college library, and every other library in Calcutta.

(*c*) Yes.

(*d*) Yes. But every professor or lecturer ought to have some minimum of teaching prescribed for him. A complete separation of the professor from his class is not beneficial to either.

The post-graduate scheme recently adopted by the Calcutta University aims at attaining these ideals. The teachers have sufficient leisure and are expected to specialise and pursue independent investigations in their own subjects, which is, and has been, practically impossible for any professor working in any college under the University.

MALLIK, Dr. D. N.—MASOOD, Syed ROSS—MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN —McDOUGALL, Miss ELEANOR.

MALLIK, Dr. D. N.

(*a*) If this means the same thing as the tutorial system at Cambridge or Oxford, it is not possible to introduce it in the lower stages, nor necessary. This should be attempted at the post-graduate stage with good results.

(*b*) This is obviously desirable, but in the present state of things not possible to secure altogether. Laboratories have grown up in recent years, which may meet the requirements to some extent, but libraries are few. The more difficult point is that few of our students have the necessary leisure, and sufficient inducement to make use of libraries. Unless we simplify courses of study and insist on greater thoroughness, convince our students that study in libraries and work (more than the minimum required) in the laboratories *pay*, libraries and laboratories would be of little use. Lectures will have also to change in character at the same time. They should stimulate thought and not take the place of "keys" and aids to examinations.

(*c*) This is no doubt desirable, but is not essential before the degree stage—even if then; for the present if this freedom is allowed at the post-graduate stage, it will be sufficient.

(*d*) This is desirable and is secured under the new regulations (so far as the *leisure* is concerned) in the Government colleges, at least. In private colleges, the more immediate need is to secure a more adequate scale of salaries. Independent investigation must be a matter of slow growth in a favourable atmosphere and for that, it will be necessary to await the development of post-graduate study and research.

MASOOD, Syed ROSS.

(*a*), (*b*), (*c*) and (*d*) Yes.

Not attainable. Wide territorial jurisdiction makes a corporate intellectual life impossible.

MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

All the four conditions mentioned in this question are essential for the proper training of university students. Without a close association between the teachers and the taught education degenerates into a mechanical process measured by working hours and outturn of work.

I do not see why the ideal cannot be attained in case of most of the moffussil colleges where the professors may be provided with residential quarters within the college compound or near about it so that they may be in constant touch with their pupils. In Calcutta also they may occasionally not only visit the students in their hostels, but also take them out on Sundays and other holidays for excursions and observations as well as for social amenities. If the extreme rigours of the existing building regulations of the University were somewhat relaxed the additional cost involved in these arrangements would not be very heavy.

McDOUGALL, Miss ELEANOR.

(*a*) (*b*) (*d*) The answer is obviously in the affirmative.

(*c*) Its advisability depends entirely upon the degree to which (*a*) can be carried out. If the teachers are not men of ability and character the only safeguard for the students lies in the rigid control exercised by the university requirements and examinations.

MEEK, D. B.—MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur—MITRA, RAM CHARAN.

MEEK, D. B.

The University is composed of so many and such different parts that it is possible to find almost any condition of training in one part or another of it. In some of the post-graduate stages I should say that there are cases where some of the conditions are to some extent attained. However the post-graduate classes form only a portion, and at that a small portion, of the University, and I am afraid that in the other portions the conditions indicated are very far from being attained.

In my opinion, as the University exists at present, the ideal set forth in this question as to the functions of a university is unattainable. It requires quite a distinct mental effort to pass from the standard indicated by the question to the actual state of affairs as existing in certain places under the present system.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

Yes. In this connection some of the suggestions made in my answer to question 1 may be read.

(*a*) In order to get first-rate teachers it will be necessary to increase their salaries. As a rule, teachers are so ill-paid that nobody with more than ordinary intelligence and capability would care to stick to the post of a teacher under the present conditions. But this involves the question of the insufficiency of the Government grant for educational purposes and no improvement is possible without larger grants from Government. While considering the subject of making adequate grants the Government should also consider whether it would not be possible to change the present system of granting pensions to teachers. I suggest that instead of granting monthly pensions, provident funds and bonuses like those in the railway departments may be started for paying lump sums of money to teachers at the time of their retirement. This system should not be adopted unless it is found that the retiring officers get decent sums of money at the time of their retirement.

(*b*) I have already said that teachers and students should have access to well-equipped libraries, laboratories and museums for which adequate provision must be made at least at the headquarters of each district. At the same time, I should suggest that teachers should freely mix with the students. Prizes and scholarships may be awarded for the encouragement of the study of students in libraries, etc.

(*c*) There ought to be a large amount of freedom of teaching and study, provided that the teaching is conducted by men of high ability, but at the same time in ordinary cases a particular standard should not be lost sight of.

(*d*) It is not enough that competent teachers should be appointed. Due provision should also be made in respect of the number of teachers and special care should be taken to increase the number of teachers so that they may have sufficient leisure to pursue independent investigations in their own subject. Considering the work allotted to teachers in each institution I suggest that their number should be doubled in each institution.

MITRA, RAM CHARAN.

I think that the functions of an ideal university should be as set forth, but this ideal is not attainable under the existing system in Bengal because of the large number of the students who are placed under the same over-worked teacher.

MITTER, Dr. DWARKANATH—MITTER, Dr. PROFULLA CHANDRA—MITTER, The Hon'ble Mr. PROVASH CHUNDER—MOHAMMAD, Dr. WALI.

MITTER, Dr. DWARKANATH.

(*a*), (*b*), (*c*) and (*d*) Yes; I consider that university training at its best involves the four principles indicated.

At the same time, I apprehend that this ideal of university training is not attainable under the existing system in Bengal. There are practical difficulties in the way of applying these principles for, in the first place, teachers of first-rate ability are not plentiful in this country and, consequently, the intimate touch between such teachers and undergraduate students is not practicable.

(*b*) Although it can be given practical effect to in Calcutta, it can hardly be applied in mofussil colleges where well-appointed libraries and laboratories are rare.

(*c*) Freedom of teaching and study should be allowed in such a way as not to effect the minimum of work requisite for the university examinations.

MITTER, Dr. PROFULLA CHANDRA.

(*a*), (*b*), (*c*) and (*d*) The answer is in the affirmative.

If the ideal is not always attained it is certainly attainable, there being nothing in the existing system which is antagonistic to this ideal. The whole problem of improvement of the existing conditions hinges on that of funds. More money is needed for bettering the equipment of colleges and it is necessary that more colleges should be founded both in Calcutta and outside to prevent the overcrowding which certainly exists in many private colleges in Calcutta and which no one interested in education can look upon without grave misgiving. It must be admitted too that at present not many teachers even in Government colleges, which are generally better manned than the private colleges, have sufficient leisure to pursue independent investigations in their own subjects. Additions to the teaching staffs are necessary in many places. Improvements, too, in the pay and prospects of the college teacher for attracting more first-rate men are necessary for a fuller realisation of the ideal set forth herein.

MITTER, The Hon'ble Mr. PROVASH CHUNDER.

(*a*) Certainly with regard to type (*a*); as far as possible with regard to types (*b*) and (*c*).

(*b*) With regard to type (*a*) the libraries and laboratories should be of the best possible kind. With regard to type (*b*) they should be of a standard to produce the results indicated in the preliminary note. With regard to type (*c*) the answer to type (*b*) applies.

(*c*) Certainly with regard to type (*a*). As regards types (*b*) and (*c*) as far as possible within the standards prescribed.

(*d*) Certainly with regard to teachers for type (*a*). To a less degree for teachers engaged in types (*b*) and (*c*).

The ideal is neither attained nor attainable under the existing system in Bengal because of the mixing up of types (*a*) and (*b*). If a proper line of demarcation be kept in view then the ideal is attainable.

According to my view of the situation the last two lines of the question do not require to be answered.

MOHAMMAD, Dr. WALI.

(*a*), (*b*), (*c*) and (*d*) I agree with the view as to the functions of a university as given here.

That these functions are not discharged and that the ideal is not attained has been explained above. Given a real desire for improvement and reform there is no reason why

this ideal should not be attainable in Bengal. The solution of the problem will depend not only on sufficient funds being available but also on the attitude of Government and the people of the country. The attainment of the ideal may be facilitated:—

(i) By establishing a teaching and residential, instead of an examining and federal, university.

(ii) By improving secondary education, by diverting the unpromising students to other paths of life and by selecting only the suitable candidates for higher education.

(iii) By discouraging the establishment of ill-equipped, badly staffed, poorly financed affiliated colleges and by helping and strengthening the right sort of existing colleges.

(iv) By appointing the best professoriate, who should be masters in the real sense of the word.

(v) By providing the highest instruction in as many branches of knowledge as possible.

(vi) By giving freedom of teaching to the teachers and freedom of learning to students.

(vii) By promoting research among teachers and encouraging it among students. (Calcutta is already in the forefront in this respect.)

(viii) By providing fellowships for brilliant students.

(ix) By throwing open the highest appointments for the best intellect of the University.

(x) By making education in harmony with the actual life and the actual surroundings.

MUKERJEE, ADHAR CHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is *not attained*, but *is attainable* if first-rate teachers be secured for the kind of work.

MUKERJEE, Dr. ADITYANATH.

(*a*), (*b*), (*c*) and (*d*) The four requisites enumerated are certainly desirable. The extent to which they should be insisted upon is mainly a question of finance.

(*a*) If students are to get 'personal' guidance from 'teachers of first-rate ability and of recognised standing' the number of students under individual teachers must be obviously small, and the number of teachers in charge of such small groups of students must be correspondingly large. And if these teachers are adequately paid, and allowed sufficient leisure for purposes of research, as suggested in (*d*), the cost of the system would be prohibitive.

There is a way out of the difficulty if we confine such personal guidance to the most advanced stage of post-graduate teaching where alone the students are likely to profit by such personal contact and supervision, and if the number of students in our colleges be reduced by a method suggested elsewhere (kindly see my reply to question 8).

(*b*) It is possible in the case of the Calcutta colleges to provide one central library and laboratory if the several colleges were to pool their subscriptions—their periodical library and laboratory grants—for the purpose.

(*c*) The difficulty is to provide sufficient freedom of teaching and study and to maintain, at the same time, a certain uniformity of standard—to reconcile autonomy of teaching and of study with the uniformity of standard. The difficulty may be met partly by making the syllabuses more elastic, partly by setting a fairly large number of alternative questions arranged in groups.

If the standard particularised in are not conformed to by many of the affiliated colleges it is mainly because of financial considerations.

MUKERJEE, BIJOY GOPAL—MUKERJEE, RADHAKAMAL—MUKHERJEE, B.

MUKERJEE, BIJOY GOPAL.

How far the ideal is attainable under the existing system may be considered under the different heads :—

(*a*) The number of teachers of recognised standing is everywhere small and, having regard to the financial resources available, it does not seem possible that the Calcutta University or its constituent colleges will be able to engage such men at every stage of the work. There is, however, no dearth of men of first-rate ability, and with the gradual expansion of the University it is quite possible that such men will have greater opportunities of developing their capacities so as in time to become men of recognised standing in their own subjects. Opportunity makes the man, and it is highly desirable that men of ability should be given every possible facility for proving their merit and winning distinction here as well as abroad.

(*b*) Libraries and laboratories may be well-appointed without being costly, and the resources of the different colleges, as supplemented by Government grants and private benefactions, may be so husbanded as not only to provide small, up-to-date libraries and laboratories for their junior students, but also to help the University in maintaining a central library and laboratory for the general body of advanced students. The buildings may be so designed as to provide ample accommodation at a moderate cost, and by a judicious selection of books and scientific apparatus; the University and its colleges may adequately meet the requirements of their teachers and students alike.

(*c*) Only a moderate degree of freedom may be allowed to individual colleges in matters of teaching and study as a large measure of freedom in such matters will practically place them beyond the control of the University. It is essentially necessary that they shall conform to a general system, and their work be judged by one uniform standard, so that a degree of the University may connote a certain measure of mental equipment on the part of its successful alumni.

(*d*) There should be a sufficient number of teachers in every subject so that they may have ample time at their disposal for preparing themselves for the particular work of teaching assigned to them, as well as for independent investigation in their subject.

MUKERJEE, RADHAKAMAL.

No; the ideal cannot be attained in the present system. Even if attainable the isolation and separation of educational interests from the interests of life and of culture cannot but result in barren and harmful specialism in the present system.

MUKHERJEE, B.

(*a*) Yes; though how it can be done in the case of *all* the students of the University it is difficult to say.

(*b*) Yes.

(*c*) Yes.

(*d*) Yes.

(*a*) This ideal is very rarely attained at present. Generally speaking, the only common link between students and professors at the present time is the class-room. There are, no doubt, certain cases of exception. One such case may be mentioned, as that of Professor Manohar Lal, the late Minto Professor of Economics in the Calcutta University.

MUKHERJEE, B.—*cont'd.*—MUKHERJEE, JNANENDRANATH.

(*b*) The University library is one of the best libraries in Calcutta now. So is the Imperial Library. There is no difficulty in the case of professors getting books out of these libraries. Students have easy access to the Imperial Library. In the University library students meet with some difficulties in taking out books. They often came to us with complaints. But these difficulties were minor which could easily be removed, and I hope they have already been removed.

(*c*) Professors generally take a certain degree of freedom in teaching the M.A. classes—at least this was done in the economics classes of the University. But it is not possible to take any such freedom in the B.A. classes. The reason for it, I think, is that in the B.A. course (I am speaking of economics). as the syllabus is laid down in detail, it is impossible for professors to move out of it. In the M.A. course such a detail syllabus is absent and so professors have greater freedom.

(*d*) Professors taking the I.A. and B.A. classes in the undergraduate courses are generally hard worked. But those teaching only the M.A. classes, especially in the University, have, generally speaking, ample leisure and they can easily pursue independent researches if they like—as some of them certainly do.

MUKHERJEE, JNANENDRANATH.

(*a*), (*b*), (*c*) and (*d*) The standard laid down can be applied with some reservations. The training in our University may be broadly divided into the undergraduate and the post-graduate courses. For the undergraduate course, especially the first two-years' course, the degree of freedom of teaching and of study allowed should be subordinated to a minimum curriculum. The aim of a university is to impart a comprehensive "general" training and simultaneously to foster a spirit of original research. Original research must be preceded by a groundwork of thorough and up-to-date training. To ensure this comprehensive general training—which is to be shared by the largest section of the alumni of any university—the first stage of university training should be free from undue specialisation. Specialisation should be reserved till the later stage of university education, where the degree of freedom of teaching and of study would be much greater.

The ideal is not attained, but it is attainable if some defects in the working of the present system be remedied. The organisation of post-graduate studies recently introduced has made the ideal possible of realisation so far as the higher teaching is concerned.

It is needless to point out that no ideal arrangement for teaching is possible unless men of first-rate ability adopt the profession of teaching. Speaking generally, it is deplorable that this is not so at present. The causes are the poor status, prospects, and facilities for teachers. Besides, the teachers have not sufficient leisure to keep up their studies or do original work.

In some private institutions the teacher is overworked with routine duties. Some of these institutions enjoy the reputation of being money-making concerns for interested individuals. What we actually see is that in such institutions the number of students admitted is much in excess of the accommodation. Sound training for all and a share in the cultural life of the college is impossible under the conditions. The teachers are ill-paid, and maintenance of discipline during college hours is perhaps all that is required of them. Fortunately, these conditions hold only in a few institutions. The missionary institutions are, as a rule, free from these objectionable traits.

In Government colleges there is an undesirable differentiation in the status of teachers of equal ability, even when they do the same kind of work. As a result many of them suffer from unequal distribution of work. Some of the Government colleges are understaffed and the teachers suffer from heavy routine work.

As for facilities for research most of the colleges have not sufficiently equipped libraries or laboratories. Indeed, apart from the university post-graduate institutions

there are only two other institutions—the Presidency College and the Government College at Dacca—in Bengal which can offer any such facilities. Private institutions are hampered by their limited resources. Colleges endowed by the public should be liberally financed by Government. At present, teachers in most institutions cannot keep up with the advance in their subjects for want of facilities.

Teachers should also be given a greater degree of freedom in framing the courses of study and the rules of examination through an academic council. This will also improve the status of teachers at present engaged in undergraduate work.

The real crux of the problem is the overcrowding in most colleges. This is due to the fact that the total number of institutions falls far short of that required to impart an adequate training to students. Indeed, the desire for higher education is so extensive in Bengal that the present available resources of all Government and private institutions fail to meet the situation, and we hear every year that a good number of matriculates are refused admission for want of accommodation.

The obvious remedy is to open up a larger number of colleges for undergraduate work.

MUKHERJI, PANCHANANDAS.

I believe that this question refers more to the post-graduate, than to the under graduate, stages. I cannot say that this ideal is already attained under the existing system in Bengal. I think, however, that it is attainable. But I should like to make these conditions more explicit.

For example, the first condition (*a*) implies that the classes should be of such a manageable size that the teacher can give individual attention to each student, and that students should be so selected that they can profit by coming in contact with teachers. If simultaneous M.A. and law studies are prohibited only genuine M.A. students would join the post-graduate classes; if such prohibition is not possible or desirable selection should take the place of promiscuous admission to the post-graduate classes, preference being given to those who have passed the B.A. examination with honours or with distinction; in the case of ordinary pass students only such of them should be admitted as have secured at least 50 per cent of the marks in the subject in which they desire to specialise in the post-graduate classes. After the classes are thus formed small batches of students should be permanently attached to each teacher (who should, for these purposes, be called the tutor) who would be responsible for their studies and conduct during the time they are members of the post-graduate classes. I think this system is much better than the present tutorials by rotation under which each student comes into contact with one of his teachers for less than an hour during the course of one or two months—or not even that if he can avoid his tutorial class without detriment to his percentage.

[Incidentally, I think this system of "percentage" or compulsory attendance at lectures should give way to optional attendance, especially in the post-graduate classes. The merit of the lectures and the reputation of the lecturer should attract the student who should be required to furnish a certificate of good conduct and regular studies from his tutor before being admitted to the M.A. examination.]

The second condition (*b*) is one of *the* main essential conditions of sound university training. But mere "access" to the libraries will not do. Just as the science student's time-table is so arranged that he may devote a considerable part of his time to actual laboratory practice so the arts student should be compelled to devote a few hours each day to work in the great intellectual laboratory—the library. The present tutorial system should be abolished; instead, the student should, under the direction of his tutor, work in the library and make summaries, extracts, criticisms of works, write two or three papers on the prescribed essay subjects and produce them before his tutor. The hours at present devoted to tutorials should be set apart for using the library, and the number of lectures should also be considerably reduced so as to allow the student time for using the library.

MUKHERJI, PANCHANANDAS—*contd.*—MUKHOPADHYAYA, Dr. SYAMADAS.

I should be glad if something like the following method could be substituted for the present tutorial system :—

The present library should be decentralised ; each subject of study should have a separate library, and each of these subject libraries should have an efficient librarian (to assist the honorary librarian to be elected annually from among the teachers of the subject) and a good catalogue. Each student who uses the library should enter the following details in a register to be kept in the library—the name of the student, the date, the time spent in the library, the books taken out, and the nature of the work done. The student would be free to read what books he likes ; but he should write a few papers on selected subjects ; and for this purpose he should be guided by his tutor. The tutor should, at the end of each month, call for the notebooks of his " attached " students, examine them, suggest improvements etc., and then return the books. He should have a private register in which he will record his opinion of the work done by his ward. At the end of the post-graduate first-year class only such students shall be promoted to the second-year class as have given satisfactory evidence of good work in the library. Similarly, no student should be allowed to sit for the M.A. examination who has not a satisfactory record of library work and is not able to produce a certificate from his tutor.

I consider the adoption of the above scheme (or something of that nature) to be vitally necessary for a sound university training, and I think it will satisfy the four conditions mentioned in this question, for :—

(i) Each student will be under the guidance of at least one teacher of first-rate ability (his tutor) who would be associated with his work throughout his post-graduate career and thus get into intimate touch with him and so inspire him with his personal ideals.

(ii) There will be real use of the library ; and both the teacher and the student will gain by mutually comparing notes of work done in the library ; the student will have time and scope for work in the library.

(iii) Freedom of teaching and of study will be secured—for students will be free to read books on their chosen subjects, but they must produce evidence of their study before their respective tutors, who will also read with the students whenever opportunity offers itself.

(iv) Being relieved of almost daily tutorial work the teacher will have sufficient leisure to pursue his own studies. But the teacher should, like his student, give evidence of his studies and investigations. I think every post-graduate teacher (if he has not, prior to his appointment as such, produced some valuable work) should, within five years of his appointment, be required to publish, either at his own expense or at the expense of the University, the results of his independent investigations. Such publications are necessary not only for " the advancement of learning ", but also for inspiring the students.

MUKHOPADHYAYA, Dr. SYAMADAS.

(*a*) Yes ; but teachers of first-rate ability are not numerous under the existing system because there are not sufficient inducements and prospects.

(*b*) Yes ; but well-appointed libraries and laboratories are costly and every existing college cannot afford to have them, except gradually.

(*c*) Yes ; but in that case the teachers alone should control the examinations of their students, and the examinations should be restricted mainly to questions on broad principles. Under the present system the teachers are not sufficiently represented on the boards of studies who recommend the examiners, and there is a dearth of good examiners owing to the dearth of good teachers.

(*d*) Yes ; but under the existing system Indian teachers generally and European teachers sometimes, are overworked and can find little leisure for original work. Besides, there is generally a lack of library or laboratory facilities and of a stimulating environment.

Murarichand College, Sylhet—NAG, J. C.—NAG, P. N.—NAIK, K. G.—NANDI MATHURA KANTA.

Murarichand College, Sylhet.

(*a*) Yes.
(*b*) Yes.
(*c*) As an ideal accepted.
(*d*) Yes.

The ideal set forth in (*a*), (*b*), (*c*) and (*d*) is attainable in Bengal under the existing system with certain modifications.

NAG, J. C.

(*a*), (*b*), (*c*) and (*d*) My answer to all the clauses is in the affirmative.

The ideal cannot be attained under existing conditions, but under the new type it can be easily attained. Under existing conditions the function of a teacher primarily consists in teaching and he has to devote at least twelve hours a week for that purpose alone. Now, if the time necessary to prepare his lecture is added to it, it will come to about twice that number of hours. Consequently, there is very little time left at his disposal to do any work besides teaching. Then, again, he has to do it because he is not the master of his own work. He is always asked to follow a syllabus which he has had no hand in making. There is very little freedom for him to develop his own course of lectures. So far as the condition of a library is concerned it is anything but satisfactory. In fact, a teacher has to depend upon his own resources in respect of this most important adjunct to teaching. There are a few libraries in this city which may be important for teaching purposes if they were freely accessible to the teachers; but, unfortunately they are not.

NAG, P. N.

(*a*) Yes; as far as practicable.
(*b*) Yes.
(*c*) Yes; this is rendered possible by the prescribed syllabus of study on different subjects and the scope afforded to students by a large number of recommended books.
(*d*) Yes; colleges and hotels should be situated as close to one another as possible so that the principle laid down under (*a*) may be fulfilled.

NAIK, K. G.

(*a*), (*b*), (*c*) and (*d*) The four conditions are most essential for good university training. But to the above may be added military training. The University should have its own officers' training corps and its own cadet corps. Not only this, but the University classes in military training should be more or less on the lines of those at the Illinois University, where the State supplies pieces of artillery, shells, and other necessities.

The first four conditions are attainable under the existing system provided it is allowed to expand on the same lines and rules be framed wherever necessary. Proper care should be exercised to enforce the rules rigidly.

NANDI, MATHURA KANTA.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is not fully attainable under the existing circumstances. Insufficiency of pay and prospects does not attract men of first-rate ability to the profession of teaching.

University qualifications are made the sole criteria of selection and graduates fresh from college are appointed to teach higher subjects for degree examinations. Laboratories in many colleges are neither up to the mark nor up-to date. The whole system being mainly dominated by university examinations there is little freedom in teaching. Teachers do not enjoy sufficient leisure for independent investigation and preparation. Matters have somewhat improved under the new university regulations so far as colleges are concerned, but they are very much the same in schools where teachers are ill-paid and overworked.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

(*a*), (*b*), (*c*) and (*d*) I fully share the view as to the function of a university as stated. But how far and in what way it is possible to realise the ideals under existing circumstances is a matter for consideration by the University authorities.

(*a*) I am of opinion that the introduction by the University of the system of placing students under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects will, undoubtedly, be conducive to the real welfare and best interest of students. This is really a move in the right direction. But it remains to be considered whether it is feasible to give full effect to the scheme even if it is possible to meet the expenses involved therein. Considering the number of students in colleges and schools affiliated to the Calcutta University it will be impossible to procure an adequate number of really competent men to take charge of students and train them in the manner suggested and determined by educational experts. There is a dearth of highly accomplished teachers of first-rate ability and of recognised standing. It will be evident from statistics that every year a good number of students actually leaves the universities with high academical distinctions Evidently, the majority of them take to other professions with greater prospects of emoluments, leaving a very small number to pursue the vocation of teaching. Consequently, with a view to induce capable men to accept service under the University, it will be necessary to provide adequate funds for the purpose. Necessarily, students will have to pay more for their education. But, in consideration of the financial conditions of the general population of Bengal, it will be inexpedient to raise further the cost of education which has lately become already too expensive. Many students will, owing to the increased cost of education, be unable to continue their studies. It is, therefore, suggested that measures may be adopted in giving effect to this scheme having due regard to the above fact.

(*b*) It is needless to say that this will prove greatly beneficial both to professors and students.

(*c*) Yes.

(*d*) Yes.

Under the existing system in Bengal the ideal of the functions of the University is not completely attainable until large endowments are made and adequate Government help is given to colleges and schools.

NANJUNDAYYA, H. V.

(*a*), (*b*), (*c*) and (*d*) No one can refuse to acknowledge the soundness of the ideals indicated. But their application may have to be qualified by other considerations.

(*a*) Where, on account of cost or otherwise, first-rate men cannot be procured and it becomes a question whether a college should be closed or second-rate teachers tolerated, the latter may be a more desirable course.

(*b*) A similar remark may be made. Of course, a minimum standard should be insisted upon.

NANJUNDAYYA, H. V.—*contd.*—NEOGI, Dr. P.—NEUT, Rev. Father A.—North Bengal Zamindars' Association, Rangpur.

(*c*) As for freedom of teaching and study the degree varies with the kind of teachers and students. Where they are not first-rate it would certainly be better to impose set curricula and definite courses. The freedom also depends on the money available for providing a large number of teachers and equipping laboratories and libraries on a generous scale and on the number of students in a university.

(*d*) The 'leisure' claimed for teachers may be too large for the importance or fruitfulness of their independent investigations. The immediate needs of students should not be made an altogether subordinate concern.

NEOGI, Dr. P.

It is an axiomatic truth which needs no elaboration that students should be placed under teachers of first-rate ability. Only the best products of the University should be taken on the staff of colleges, and preference should always be given to those who have done some original work so that they may in their turn infuse their own spirit of work into their students. The pay and prospects of the Educational Service are very low so that the best products of the University are not always attracted to educational work but go to the legal, medical, and other professions. The pay and prospects of educational officers should be materially increased and *a rule should be laid down by the University that no teacher in a college (Government or private) would get an initial salary of less than Rs. 200* (excepting demonstrators and lecture assistants) per mensem. The University has already fixed a minimum salary in the case of schools.

The question of professors who would undertake research work has been dealt with whilst answering question 16.

NEUT, Rev. Father A.

(*a*) (*b*), (*c*) and (*d*) I certainly share the view expressed in the question as to the functions of a university.

I, as certainly, am of opinion, not only that the ideal is not attained, but that it is not attainable here. That it is not attained appears from what I have said on question 1. And I hold it is not attainable for the following reasons:—

(i) The crowd of students who flock into the University makes it impossible to have them all under the personal guidance of the professors unless the number of the latter be considerably increased. As we suppose in our ideal that the teachers are "of first-rate ability and of recognised standing in their subjects" it would be useless to look for such men in a vastly increased number.

(ii) The large degree of freedom of teaching and of study would be abused considerably by a number of men that are moved not by love of learning or knowledge, but by personal interests which are sure to predominate as long as university degrees open the door to lucrative Government posts and advantageous marriages.

(iii) To give to the teachers sufficient leisure to be able to pursue independent investigation in their own subjects would mean to increase each teaching staff to a greater extent than India could afford.

North Bengal Zamindars' Association, Rangpur.

(*a*) Yes; this was the system in vogue in ancient India, the learning of which is still the admiration of the world; but in arriving at an opinion on this subject we should take stock of the altered circumstances. In ancient times the Gurus, or teachers, were, by their very nature, destined to be such; for they imparted

North Bengal Zamindars' Association, Rangpur—*contd.*—PAL, The Hon'ble Rai RADHA CHARAN, Bahadur—PARANJPYE, The Hon'ble Mr. R. P.

education not for any worldly gain, but as a part of their religious rites. They were self-renouncing men and as such they were living ideals to their pupils who were thus enabled to realise in life what education they received and ennobled by their association with the Guru. Imitation is a quality of the evolving mind and here lie the advantages and dangers of association of pupils with their professors. On principle the answer must be in the affirmative but, at the same time, it must be subjected to the restraint by the consideration of the quality of the teaching staff. Teachers of first-rate ability and recognised standing in their subjects are not always safe models for their pupils and, therefore, the desired results of placing the pupils under the personal guidance of the teachers will only be obtained if the right sort of teachers be available.

(*b*) Teachers should have access to well-appointed libraries and laboratories, but as indiscriminate reading and frivolous pursuits only burden the juvenile mind and rob it of its freshness and acumen teachers should take upon themselves the responsibility of selecting particular books which may be read with advantage by a particular student or students.

(*c*) Yes; there should be some degree of freedom in the method, but not in the subjects of teaching and study. Students should be protected from imbibing the fads and dogmas of particular individuals who may happen to be teachers.

(*d*) Teachers who have shown their aptitude for research and promise to profit by such works should have sufficient leisure and opportunity to pursue independent investigation in their own subjects.

PAL, The Hon'ble Rai RADHA CHARAN, Bahadur.

(*a*), (*b*), (*c*), and (*d*) I fully agree with the ideal of a university set forth.

The above ideal is not, however, realisable under the present conditions in Bengal.

Firstly, because teachers of the requisite calibre are often wanting,

Secondly, because suitable laboratories and libraries cannot be provided at many colleges for want of funds.

Thirdly, because the whole system of teaching and of study is dominated entirely by examinations.

Lastly, because the teachers are usually underpaid and overworked, and they have hardly any leisure for independent study or research. Moreover, there is wanting that close and free association of teachers with students which is essential for any satisfactory system of university training.

PARANJPYE, The Hon'ble Mr. R. P.

(*a*) It is only the post-graduate students that require to be placed under the guidance of teachers of first-rate ability and of recognised eminence in their subjects. Ordinary undergraduates can do with persons of a somewhat lower calibre though they should have opportunities of seeing and hearing first-rate men.

(*b*) Teachers and students should have access to good libraries and laboratories and there should be a good deal of personal contact between them, as in seminars for advanced students and tutorial assistance in the case of junior students.

(*c*) There should be some degree of freedom of teaching and study, but this applies mainly to the advanced students. Such freedom in the case of junior students is likely to degenerate into a quest for soft options and an easy institution. It cannot be forgotten that a large number of junior students in every country studies with a purpose, *e.g.*, of getting a degree to qualify for some service, etc., and India is not different in this respect.

(*d*) Teachers of first-rate ability should have opportunities of pursuing their own investigations but this should not be done at the expense of their main work of guiding and inspiring the advanced students, who should be allowed to collaborate with them in their investigations.

The financial resources at the disposal of any University in India will not probably be enough to supply a sufficient number of such first-rate men; but a good deal more can certainly be done than at present. Some of the younger men in India of good promise should be encouraged to work in connection with the University or its colleges to advance their subjects by the grant of fellowships and lectureships.

Peoples' Association, Khulna.

We entirely agree that an ideal university should satisfy the conditions referred to in this question.

We do not consider that the ideal is either attained, or wholly attainable, under the existing system in Bengal.

(i) Owing to the want of sufficient State help and private endowments the pay and emoluments of teachers cannot be made sufficiently attractive to secure the services of men of first-rate abilities.

(ii) The economic difficulties of the people render the bulk of the students, who are of moderate means, unable to reside in hostels attached to colleges and schools or in a residential university.

(iii) Financial difficulties stand in the way of establishing and maintaining the requisite number of well-appointed libraries and laboratories.

(iv) Want of an ideal staff and economic difficulties make it undesirable to permit freedom of teaching and study.

We desire to make it clear that it is far from our intention to suggest a lowering of the ideal. What we want is that the State should come forward to help the University more liberally and that, with this help, the University should gradually proceed in the realisation of the ideal.

RAHIM, The Hon'ble Mr. Justice ABDUR.

(*a*) Yes.

(*b*) Yes.

(*c*) Yes; where (*a*) is satisfied.

(*d*) Yes; if teachers are as described in (*a*), and also it should vary with the subject.

The above ideal is not attained, nor is fully attainable, under the existing system in Bengal for the reasons above given. The Calcutta University, as I have already indicated, cannot fairly be blamed for non-attainment of the ideal, for it has never had the means and the authority for the purpose.

RAMAN, C. V.

In my opinion, it is a mistake to suppose that first-rate ability (as ordinarily understood) and recognised standing are all the qualities necessary for a successful university teacher. Even of greater importance are other qualities, such as a feeling of real sympathy towards students, and a desire to do the best for them, and a genuine enthusiasm and spirit of service and devotion, such as one can ordinarily feel only towards one's own country. There are instances in India of men of undeniable ability and scientific standing who have failed to produce permanent results for want of one or other of these qualities. I would cite the following cases to illustrate my meaning; and, in doing so, I wish to make it clear that I do not intend any personal attack on these gentlemen, with whom I am personally acquainted and for whom I have real regard. Dr. W. H. Young was

Hardinge Professor of Higher Mathematics in the Calcutta University for some years. His residence in India was only a few months in each year and, though his connection with Calcutta undoubtedly shed a momentary lustre on the University, his influence does not appear to have materialised in an increased output of research. Dr. M. W. Travers, who was the Director of the Tata Institute for some years and subsequently severed his connection with it, is another instance. A more striking instance still, is perhaps that of the present Director of the Institute, Sir Alfred Bourne, who out of his own mouth admitted that, after being some time in India, he preferred administrative work to scientific research. After quoting such examples it is almost superfluous to recount the manner in which men of relatively insignificant ability filling highly-paid posts in the " Indian " Educational Service have failed to make an impression in Indian university work and neither carried on research on their own nor attempted to stimulate and develop the talents of young Indians. We have now in the Calcutta University schools of research in a number of subjects and find that, in every case, the leader has been an Indian; a fact that would seem to indicate that scientific ability alone might be ineffectual, and that the qualities mentioned by me are indispensable.

RAY, Dr. BIDHAN CHANDRA.

(*a*) I consider that students should be placed under the personal guidance of teachers of first-rate ability; but this is only possible in the case of students who are studying in the higher classes.

(*b*) There should be a well-equipped museum, laboratory, and library accessible to teachers and students alike in every university centre.

(*c*) While the student is pursuing a course of study which is to form the basis for future work on specialised lines the degree of freedom in teaching and study should be of a limited character. Up to the intermediate stage teaching and study should be on fairly well-defined lines. In a university like Calcutta, specially, which controls colleges in different districts, a certain degree of uniformity of standard of study is desirable at this stage. When the student is studying for the B.A. honours, or for the M.A. courses, when his studies are of an intensive, rather than an extensive, character, a great deal of freedom should be allowed to him in the choice of books and teachers; the function of teachers would, at this stage, be limited to indicating the lines of study to be followed by him. But even at this stage of specialisation the student should not be allowed to remain in a groove; he should be given opportunities of broadening his knowledge, by attending lectures on cognate subjects.

(*d*) All teachers should have sufficient leisure to develop their original ideas in their respective subjects so that they will be able to present them to students in the most assimilable form. If the teacher wants to pursue original research work he should not be burdened with more teaching work than the delivery of a few lectures a year on the particular subject he is working upon.

The above view involves an ideal which is not attained in Bengal to-day except in a very limited sense, and it is not attainable under the existing system to any great extent. Because:—

(*a*) we have not in Bengal a sufficiently large number of teachers who are trained to give effect to the ideal in its entirety; and

(*b*) the question of finances stands in the way. The University or the colleges cannot control sufficient funds to employ permanently the few teachers available or to bring them from other countries.

RAY, JOGES CHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is not attained at present, and is not attainable unless the present system be considerably modified in accordance with the ideal.

RAY, Maharaja KSHAUNISH CHANDRA, Bahadur.

(*a*), (*b*), (*c*) and (*d*) Yes.

Under the present financial and economic conditions of Bengal it is not possible that the ideal can be fully attained either under the existing system of education, or under any other system, unless a very vast sum of money be forthcoming for the necessary re-organisation of the system. An attempt to introduce European systems of centralised residential colleges in Bengal is bound to be a failure on account of the pecuniary embarrassment of most of the inhabitants of Bengal. The cost of education in such colleges will be almost prohibitive to most parents and guardians. Only a few well-to-do men will be in a position to afford it. But, though the ideal is almost unattainable, something may be done by raising the status and equipment of the existing colleges for the betterment of education in Bengal, which in progressive stages and in more favourable economic conditions may approach the ideal.

RAY, MANMATHANATH.

(*a*), (*b*), (*c*) and (*d*). Yes; the standard indicated is the true function of a university. The ideal is attainable, but has not yet been attained in Bengal, although it must be said that the University has made steady reform on these lines since the Act of 1904 under the guidance of Sir Asutosh Mukherjee.

In order that the ideal may be fully realised:—

(i) Steps should be taken to create more seminars and other centres of work, including laboratories and libraries, where the teacher can meet his pupils and organise personal tuition and advanced study and the students can learn the methods of original work under the eye of his master with the necessary books and documents around him. In this connection, it may be noticed that stimulus is sometimes of greater importance than formal lectures. We should also have a larger number of superior teachers.

(ii) Steps should be taken to put the different libraries and the laboratories into order, to increase their resources, and to connect them with one another.

(iii) Teachers in the higher courses should have the liberty to choose their own courses of lectures under the authority of a central board in the University.

(iv) Steps should be taken for the appointment of a large number of superior teachers so that they might, to a large extent, be set free for investigation and research.

(*e*) Facilities should also be given for advanced study and research by the award of a larger number of fellowships, scholarships, prizes, and rewards.

In this connection, I may point out that the standard has been, to some extent, attained in mathematics and some of the other scientific subjects, and we have a number of research workers in these subjects working under the guidance of Dr. Ganesh Prasad, Sir P. C. Ray, and Mr. C. V. Raman.

A matter of very great importance which has to be considered in this connection is the circumstance that many of our best graduates have not been secured for the Educational Service because of better prospects elsewhere. The slow promotion in the Provincial Service, and the sharp line of demarcation between the Indian Service, recruited in England, and the Provincial Service, recruited in India, without any corresponding difference in intellectual attainments have made the Educational Service the least attractive to our best graduates. In order that we may have a larger number of superior teachers of first-rate ability and standing the two Services should be amalgamated into one so that Indians and Europeans should all begin on the same pay, with the difference, if any, that Europeans may have an additional allowance for severance from home, and that seniority should never be determined by the test of colour.

RAY, Sir P. C.—RAY, Raja PRAMADA NATH—RAY, SARAT CHANDRA—RAY, SATIS CHANDRA—REYAZUDDIN, Syed, Quazi,

RAY, Sir P. C.

(*a*), (*b*), (*c*) and (*d*) Yes.

The question is not easy to answer. In certain branches we have teachers like Dr. B. N. Seal, Jadu Nath Sarkar, and Professor Bhandarkar who, may hold their own against any men brought out from Europe. It is, however, very difficult to get men of first-rate ability from Europe. It is not only a question of pay, but men of real eminence cannot be induced to leave the atmosphere of culture in their own countries or be out of touch with the world of progress. The experiment has been tried in the University of Calcutta of importing eminent specialists from Europe, but I am afraid the result has not been commensurate with the amount of money spent. A teacher, to inspire his pupils, must not live detached and isolated from their society, but must live, and move, and have his being among them.

RAY, Raja PRAMADA NATH.

(*a*), (*b*) and (*c*) Yes.

(*d*) Teachers should have sufficient leisure to be able to pursue independent investigation in their own subjects. Under the existing system in Bengal, however, this ideal is not attainable for want of men and money.

RAY, SARAT CHANDRA.

(*a*) Yes.

(*b*) Yes.

(*c*) The question is not quite intelligible to me. If by freedom is meant "freedom from the syllabus" my answer is 'no'; if it means "in addition to syllabus" then my answer is 'yes'.

(*d*) Yes; provided the opportunity is properly utilised.

The ideal is not attained, or attainable, in the existing system in Bengal because the number of university students is gradually increasing while the number of colleges and teachers of ability is comparatively small. Further, there are no good libraries and laboratories and the system of messing and housing is defective.

RAY, SATIS CHANDRA.

(*a*), (*b*), (*c*) and (*d*) To the four criteria of the best type of a university I wish to add a fifth of importance that the life and activities of the University should be identified with the life and activities of the State. Teachers and students must alike be inspired by a common feeling that they are working "for service to, and the advancement of the State." In a separate note I have discussed this aspect of the question; and while possessing faith in the soundness of the existing system, when fully developed, I am of opinion that its success or failure depends upon the degree in which those that participate in university work feel that they are in integral part of the State. The ideal is, therefore, attainable to the extent to which teachers and students are inspired by this feeling.

REYAZUDDIN, Syed, Quazi.

(*a*), (*b*), (*c*) and (*d*) To my mind these should be the functions of a university.

I hold that the standard indicated cannot fairly be applied before the University is a residential one.

RICHARDSON, THOMAS H.

(*a*), (*b*) (*c*) and (*d*) I consider much more important than any of these points that the students should be varied enough to knock each other into shape and to evolve gradually for themselves a healthy university tradition.

(*a*) Yes; as far as practicable, in the case of advanced and professional students, for the ordinary pass teaching width is more important than depth.

I do not consider that the ideal can be attained with the present system of isolated colleges and outside examining authority.

RICHEY, The Hon'ble Mr. J. A.

(*a*) (*b*), (*c*) and (*d*) The suggested definition of a university's functions is too narrow and, at the same time, too ambitious. It is too narrow in that it omits all reference to the social and cultural effects of residence at a university. To many, indeed to the majority of students at older universities such as Oxford or Cambridge, it is these features of university life that are of special value. In the present condition of Indian society they are of particular importance in Indian universities.

It is too ambitious in that the ideal which it is suggested that a university should realise is one that has never been attained at any European university.

To take the points in order:—

(*a*) For the great majority of students who are only aiming at a pass degree it would be a sheer waste of the intellectual resources of the University to demand close personal attention by teachers of first-rate ability. It would be like using a razor to sharpen a pencil.

The personal guidance of teachers of first-rate ability is certainly needed for the students of ability, who are reading for 'honours' or a master's degree; but for the rank and file sympathy and teaching power are more important requisites in the staff than intellectual eminence.

(*b*) Certainly.

(*c*) In the latter half of a student's career—certainly. But the transition from the strict courses and time-table of the school to the freer educational life of the University should not be too abrupt.

I venture to think that much is lost at Oxford (to take one example) by the complete relaxation of control over the newly joined student. The revulsion from the strict discipline of the school is apt to lead to the formation of irregular habits of study. If their work for the first year were more strictly supervised, and regular attendance at lectures more uniformly enforced, students would, without feeling any undue restraint, fall into more systematic habits both of work and play than under the present system. For this reason I would deprecate any slackening of control over the Indian student until he has passed the intermediate examination. This is the more necessary as he is usually much younger than the English freshman.

The senior student should have learnt during his first two years at college how to work for himself; and guidance might then be substituted for governance.

(*d*) For the senior professors, *i.e.*, those who have the teaching and guidance of the advanced students—most certainly.

For the reasons given above I do not think the standard indicated in this question can fairly be applied to Indian universities. But neither do I think that even a fair University standard is attained, or attainable, under the existing system in Bengal because:—

(i) The provision of the highest training to students who need it is impossible without a concentrated effort by a central university authority to make the best use of its intellectual resources.

(ii) The provision of a good social and cultural atmosphere for the majority of students is impossible under the residential conditions prevailing in Calcutta. It is obtainable only in an academic town or quarter. It also implies a much larger teaching staff in more close personal relationship to students than exists between the Calcutta lecturer and his pupils.

ROBERTS, DAVID E.

(*a*), (*b*), (*c*) and (*d*) Yes.

There can be little hope that the ideal set forth in this question is attainable in the immediate future. The nature of the work now demanded from university teachers is not such as to encourage the efforts of the more able ones and generally tends to a deterioration of the teaching staff. Students are diligent and hard-working but are too anxious to learn without understanding.

The tendency to concentrate teaching in the higher stages at a few centres reacts unfavourably on the mofussil teacher by depriving him of the advantages of engaging in such teaching.

(*b*) This is a question of finance and expediency. At present, its funds, available even in Government colleges, do not suffice to set up and maintain well-appointed libraries. Recurring grants only suffice to procure a few current periodicals and the provision of reference books and back volumes of recognised journals will prove a heavy strain on any resources. The only solution appears to me to be the maintenance of a central circulating library and of a librarian capable of looking up references sent to him and of supplying abstracts. Such a librarian stationed at, say, the present university library would be a great help to teachers engaged or interested in research work.

(*c*) This in science courses is hardly desirable for courses below the honours and even then only when the teachers at mofussil centres take a greater part in the university examinations than they do at present.

ROY, HIRA LAL.

(*a*) Yes; but under the existing system of allowing not more than 150 students in a class the ideal is not attained in Bengal. I would like to make the class as big as possible provided the voice of the professor may reach the students. The main function of the professor is to impart and make clear to students the fundamental concepts of the subject. The details of the subject matter may be dealt with by tutors. The whole class may then be divided into sections of 25 or 30 students, each under a tutor. Every student will attend the lectures of the professor and a sectional meeting a week. It is difficult to get a sufficient number of good professors, and that is what is needed in the elementary courses, the main purpose of which is not to stuff the student with a vast number of facts, but to infuse in him the real spirit of the subject. To attain this every college should possess a few really able professors and a large number of tutors. Now, necessarily, the question arises—where to get the tutors? We can recruit them from among the needy B.A. and B.Sc. honours students who are studying for their M.A. or M.Sc. Ordinarily, two years' attendance in college is necessary before a student can get his M.A. or M.Sc., but, in case of these tutor-students, we can extend the period to three years to make up for the time they have to devote to the tutorial work.

(*b*) Yes; but it has not been attained in Bengal. Libraries need not contain a vast number of books, but they must be well chosen. There should be several copies of each text-book, and libraries should be kept open from 8 A.M. to 9 P.M. There should be a big central library of the University accessible to all students.

Laboratories should be big enough to admit any number of students who may desire admission into it as regular students. But these are impossible schemes

as long as the colleges are to support themselves only on the fees paid by students, as is the case at present. "Self-supporting educational institutions" are things unheard of in any other civilised country.

(*c*) Yes.

(*d*) Yes; but in Bengal teachers in colleges teaching up to B.A. and B.Sc. standards are overworked; they are neither allowed leisure nor laboratory facilities to carry on original work. The reason for this state of affairs has been stated above in section (*b*) of this question. At the same time I would like to point out that teachers in the post-graduate department of the University enjoy too much leisure. Some of their time and energy should be devoted to the undergraduates. From the educational point of view the present method of segregation is unsound.

ROY, MUNINDRANATH.

(*a*), (*b*), (*c*) and (*d*) University education at its best implies the existence of the four conditions stated.

They have not been realised in Bengal:—

(*a*) It has not been possible to place the student under the personal guidance of teachers of first-rate ability in many cases mainly for want of funds. And also because teaching as a profession has not been very attractive to many who have chosen it. Study, thus, wants attraction.

(*c*) A larger degree of freedom of training is necessary to make education useful, and that has not been exercised.

(*d*) Senior teachers and really capable men should find opportunities and time for independent work which is rarely now the case. Otherwise, the quality of study or work will not improve.

ROY, The Hon'ble Rai SRINATH, Bahadur.

(*a*) Personal guidance is not necessarily required; but first-rate ability and recognised standing in their subjects are required. There being no good prospects distinguished scholars seldom enter the Education Department.

(*b*) Yes.

(*c*) Yes.

(*d*) Yes; but teachers should be rewarded by promotion or otherwise when they attain distinction in the field of investigation.

ROY, The Hon'ble Babu SURENDRA NATH.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal as to the functions of a university is not attainable under the existing system in Bengal. The reason why it cannot fairly be applied is that very few proper and well-qualified men are in charge of university education in the Presidency, whether in colleges maintained by Government or in private colleges.

RUDRA, S. K.

(*a*), (*b*), (*c*) and (*d*) The answer is 'Yes'.

I have been out of touch with the developments of education in Bengal since 1886 and so cannot give any definite answer to the second part of the question.

(*a*), (*b*), and (*d*). It seems to me that these are mainly questions involving large finance. Not only are many more teachers wanted, but the best men, and they cannot

be had without adequate expenditure. Similarly, for independent investigations and well-appointed libraries and laboratories adequate money provision is needed. Expenditure on a large scale is only possible at well-chosen centres or at one or two centres to begin with, and for Bengal there can be no better place than Calcutta. The burden on the Calcutta colleges for higher training would thus be lightened.

(*c*) Involves questons bearing on the relation of the University to affiliated colleges, their status and efficiency, which I will briefly deal with next.

SAHA, MEGHNAD.

(*a*) Certainly; in the case of post-graduate students and research students. In the case of undergraduate students I would not insist so much on the teacher being a man of first-rate ability in his subject. One having an intimate knowledge of his subject and with powers of lucid exposition may do. But teachers of post-graduate classes must be selected from those who have done some original work in their subject, and who take an active interest in the progress of their subject.

(*b*) Certainly; and, I may add, to well-organised seminaries and learned societies also.

(*c*) Yes.

(*d*) Yes.

Speaking of post-graduate studies it can be said confidently that this ideal was not attained, as far as teaching was concerned, under the old system. Then students were required to keep abreast of the most recent progresses in their subjects, while the system of teaching was simply a continuation of the undergraduate system; *i.e.*, there were only two or three professors (in each of the institutions which held a licence for teaching post-graduate classes in specified subjects) for all the diverse branches of a particular subject. The writer remembers that when he was a post-graduate student in mixed mathematics so many different subjects as astronomy, elasticity, statics, dynamics, hydrodynamics, and hydrostatics were taught by a single professor. The whole physics course was taught by two professors. In other subjects also the situation was not better.

We may contrast with this state of affairs the system followed in the German universities. In the University of Berlin, the greatest of the German centres of learning, they have as many as 25 professors and lecturers for teaching the physics course alone. That the directors of education in Germany do not apprehend any babel of knowledge from this multiplicity of instructors is clear from the fact that this number is continually on the increase. Even Breslau, one of the smallest of German universities, has got eight instructors in physics. Similar tales can be told in the case of other subjects also.

It appears to me that if our University is to be a peer of the great sister-universities of the West the sweeping reforms which have been effected by the recent post-graduate scheme have not come a moment too soon. By parcelling out every subject among a number of experts, and transferring the control of study to a board of teachers on the subject, the University has certainly taken a big step in the right direction. The principle adopted is quite in keeping with the latest ideals of the West, and, if fully worked out, should lead us to the attainment of the ideal as defined here. The practical difficulties are, according to my experience, the dearth of well-equipped libraries and laboratories and well-organised learned societies. The University should take steps for removing these wants.

SAPRU, The Hon'ble Dr. TEJ BAHADUR.

(*a*) Yes; there is very little personal contact between students and teachers, and I strongly maintain that it would be to the good of the students if they are placed under the guidance of teachers of first-rate ability and recognised standing in their subjects.

SAPRU, The Hon'ble Dr. TEJ BAHADUR—*contd.*—SARKAR, AKSHAYKUMAR.

(*b*) Yes.

(*c*) Yes; I think, however, that it is impossible to secure a large degree of freedom of teaching and study unless the existing system of prescribing text-books is abandoned. In my opinion, only the syllabus should be prescribed and books should be suggested and students must be definitely given to understand that the utmost possible liberty would be reserved to the examiner in selecting any one of the well-known text-books on any particular subject for the purposes of examination. The evil of the present system is that in a vast majority of cases students confine themselves only to the books that are prescribed and very often the teachers, too, do not care to go beyond them with the necessary consequence that the outlook of both teachers and students is very limited. In accepting the suggestion I have made above one will have to depend upon the good sense of examiners in avoiding obscure or extraordinarily difficult books for the purpose of examination.

(*d*) Yes; subject, however, to this important condition that the pursuit of independent investigation does not engross the whole or the bulk of the time of teachers. I am very anxious that at the present stage of education in India there should be more of personal contact between teachers and students and, while I fully appreciate the demand that teachers should have sufficient leisure to be able to pursue investigation in dependently in their own subjects, I am afraid that too much pursuit of independent investigation and research may lead to the distance between the teachers and the taught being widened, instead of being abridged.

As regards the last part of the question I am unable to say anything with regard to Bengal.

SARKAR, AKSHAYKUMAR.

I consider that university training at its best involves:—

(*a*) That the student be placed under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects.

This ideal is not attained. The number of such men are few, I fear, in all countries, and especially so in this. The system of education, the environment, the opportunities are not in favour of the creation of such men in large numbers. The encouragement and the appreciation (emolument and social status) are also not favourable. Even the Government services in the Education Department do not attract the best graduates. The executive, the financial, and the judicial services are much more attractive. The social status of a professor is much inferior to that of a pleader, munsiff, deputy magistrate, or even a deputy superintendent of police not only in the estimation of the general mass, but also of the educated few and of the administrators of the country.

The system of education itself stands in the way of turning out a large number of men of first-rate ability and recognised merit as teachers.

It does not create a thirst for knowledge and a sustained habit of study, but only a desire of obtaining distinction in the examination as cheaply as possible (with as little study and labour as possible). The environments of teachers are not at all favourable. The people they live among, the students they come in contact with, and the society in general neither properly value education nor encourage it. In the mofussil centres there is little opportunity of getting books or coming in touch with real academicians or finding an appreciative audience.

At present, in order to keep the student in touch with the few men of first-rate ability and recognised merit in their subjects who have been turned out in spite of the adverse circumstances, the University should make an attempt to utilise their services more economically. All such men should be secured by the University and a system of itinerant professorships should be created. They should be placed in charge of their subjects in all centres of education, should be required to deliver in each college a

minimum number of lectures—the coaching work being left to the present college staff who will be benefited by the guidance of these first-rate men.

(*b*) Teachers and students do not at present get access to well-appointed libraries in many of the colleges. But this ideal is easily attainable by increasing the expenditure of money.

(*c*) The freedom of both teaching and study is very limited under the present system. The books are prescribed by the University and the examinations are held in such a way that the best distinction is secured more easily by mastering those books than by possessing greater knowledge in the subject.

The curriculum and the syllabus should be prescribed by the University in the interest of an efficient and harmonious standard of knowledge. But the teacher should have complete freedom in recommending and using the books in his classes.

(*d*) The teacher should have sufficient leisure. This is not attained at present in most of the colleges. His lecture work should, on no account, exceed seven hours a week. He may be given some coaching work also. The University at present lays much stress on specialisation, but more is necessary. One who is in charge of lecture work should not only be freed from the burden of more than one subject, but also from delivering lectures on too many branches of the same subject.

SARKAR, BEJOY KUMAR.

(*a*), (*b*), (*c*) and (*d*) Yes; these are the ideal conditions.
They are not attained under the existing system in Bengal.

(*b*), (*c*), and (*d*) are attainable, but not (*a*) under any system. Bengal should not try to attain this perfect ideal because of the limited educational funds at her disposal and the more pressing demand on these funds for other educational purposes. Some of the best Indian brains may, however, be drawn to the service by proper and sympathetic consideration. To enlist the sympathy and co-operation of these men there ought to be greater opportunities for freedom of work and advancement in life consistent with intrinsic merit and self-respect.

SARKAR, GOPAL CHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is not attained, and is not attainable, under the present system in Bengal. I have given my reasons in answer to question 1.

SARKAR, KALIPADA.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal is neither attained, nor attainable, under the existing university system in Bengal. The reasons are briefly set forth in answer to my question 1, *viz.*, want of ideal supplied by the University and want of highly efficient staffs in schools and colleges. The chief obstacle lies in want of funds.

SARMA, The Hon'ble Rao Bahadur B. N.

(*a*), (*b*), (*c*) and (*d*) The answer is in the affirmative.

I am not sufficiently acquainted with the system in Bengal to answer the second part of the question.

SASTRI, KOKILESWAR, Vidyaratna—SASTRI, Rai RAJENDRA CHANDRA, Bahadur—SAYIED, ABDULLAH ABU—SEAL, Dr. BRAJENDRANATH.

SASTRI, KOKILESWAR, Vidyaratna.

(*a*), (*b*), (*c*) and (*d*) Yes.

The ideal suggested in this question is not attained under the existing system ; but it is attainable if it be made to follow what was once current in India and may still be found in the *tol* systems.

In the *tols* of Bengal Hindu students come from different parts of the country for education in different subjects and entirely lose themselves in the domestic and family life of the *Guru*. The moral and spiritual influences impress themselves upon the minds of the disciples which they imbibe along with the general culture they receive and, when they go back to their family, these influences do not die, but find opportunities for giving a healthy tone to their own lives and environment.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

(*a*), (*b*), (*c*) and (*d*) I am in full agreement with the conditions of university training as laid down.

As such conditions are not obtainable, or only partially obtainable, under existing arrangements university training in Bengal necessarily falls far short of the ideal.

SAYIED, ABDULLAH ABU.

(*a*) See my observations in answer to question 1.

(*b*) Teachers and students should have free access to libraries. The libraries of the colleges should be co-ordinated, and free use should be allowed to all teachers and students of colleges within the University.

(*c*) Yes ; a large degree of freedom of teaching and of study is necessary. The existing system of rigid examinations carried on under instructions contained in Chapter XXX and following of the Calcutta University Regulations is much to the detriment of learning and teaching of a *subject*. Very little latitude is given to teachers, except, to some extent, in post-graduate courses for introducing students to their subjects and any attempt on his part does not produce eagerness or enthusiasm in the mind of students, who are intelligent enough to see that the time devoted to such studies is unprofitable for examination purposes. A distinct improvement is needed in this respect and I would suggest that all professors of the same subject within the University or, at least one from every college, should be members of a board forming a separate "guild," which may include outsiders interested in that subject and should annually discuss improvements in teaching the subject at every stage and moderate questions for the year accordingly. The present system of leaving the conduct of examinations to persons not connected with actual teaching in colleges should be done away with and sections 5 and 6 of the chapter on "Appointment of Examiners" (*vide* page 99 of the regulations) modified.

(*d*) Teachers should have sufficient leisure for independent investigation and research and an "intimate union of investigation and instruction" is desirable. But I doubt if proper facilities for this exist in different centres, certainly not in the mofussil.

SEAL, Dr. BRAJENDRANATH.

(*a*) These terms have to be more precisely defined with actual reference to the conditions obtaining in our colleges. Two main considerations arise :—

(i) Education is a social function, and it must be adapted to the physical, as well as to the mental and social, environment of the people. You may require to

SEAL, Dr. BRAJENDRANATH—*contd.*

import foreign culture, but you must acclimatise it. Western culture will remain an exotic until it is engrafted on the indigenous stock. And this work of nationalising the new science, of socialising it if you please, cannot be accomplished except by those who are children of the society concerned. It is for this reason that no people can educate another as a sort of standing or permanent arrangement. But this is not all. A teacher of the humanities to our Indian youth must possess a familiar intimacy with the Eastern tradition, but how many of our teachers fresh from foreign universities possess this familiarity at the outset, or have the chance of acquiring a sympathetic and respectful understanding of the soul of the people in the end? And without respect for the soul of one's pupil how can one arrogate to oneself the position of a teacher? And yet it is not the young Britisher's fault if he is found lacking in this imaginative sympathy with the temperament of a non-martial oriental people like the Bengalis, quick-witted, subtle, emotionally high-strung, and not without some feminine traits.

The fact is that the inspiring contact between mind and mind, the influx from soul to soul, can take place only when the souls are *en rapport*, but—and it is a sad confession to make—this is rarely the case as between the young Indian and his European teacher. For one thing, the difficulty of language is much greater than is ordinarily supposed. It is not that with better instruction in English our Indian student could not converse fluently on practical topics, but even the highly educated Indian is not very frequently capable of expressing in free English conversation his finer and better mind, his higher reason, his delicate imaginings and subtler instincts, the responses and reactions of the soul, and without such deeper intercourse there cannot be inspiring teaching: thought kindling thought and motion generating motion.

(ii) The qualifications of the teacher for the particular description of work must be kept in view. A certain amount of drill in the classics (with some school teaching thrown into the bargain) does not *ipso facto* qualify a man for a chair of english literature in an Indian college: the six hundred years and more of that literature do not come by mere birthright to the Britisher on either side of the Tweed unless he is specially trained in the new methods and ideals of English scholarship which will presently form as great a tradition as the classical (or the patristic). A curious commentary on the state of things here is the fact that English teaching in recent years gradually drifted in large measure into the hands of Indian graduates, even in Government colleges like the Presidency College and the Dacca College; though latterly one or two Englishmen from the mediæval and modern languages schools have been imported—a quite inadequate provision. Again, without any first-hand and intimate knowledge of either Sanskrit, Persian, or Bengali literature the teacher of English literature in our colleges would fail to view his subject from the standpoints of comparative literature and comparative art, and betake himself, in much larger measure than he would otherwise dream of, to the task of grinding out a wordy pulp of paraphrases, which is a direct incitement to the cram which he despises. As with English literature, so with the philology of the English tongue, which, without illustrations from the phonetics morphology, syntax, and history of the student's vernacular (or at least his classical language) must be a dismal study. The teaching of the sociological sciences (including economics) is, or was till recently, in a still worse predicament. The young professor from abroad is usually great on trusts, combines, and cartels, but innocent of the organisation of village industries or rural credit, of the Indian standard of consumption, or the Indian scale of wants and social values.

But, as a set-off against these disadvantages, the graduate from a British university has certain main advantages in the teaching of English literature and English history: a more correct and intimate sense of the Greek and Latin elements in English literature, and a living and faithful reflection of the form

and impress of the English genius and English institutions; and if he should add to these a systematic training in English literature, a working knowledge of an Indian classical language (or vernacular), and an understanding of the Indian mind and tradition he would be the best of teachers. There have been such before as I have had good reason to know, having sat at the feet of one, a Scotsman, who was, like Lamb's friend, "scholar, metaphysician, bard"—there are such to-day—and there will be such to the end. They are the salt of the earth.

Rightly understood, and where the vital conditions are present, the personal guidance of teachers is a most valuable element in discipline. But here, in certain colleges, this personal guidance has been interpreted to mean coaching (or what passes by the name of the 'tutorial'), as a substitute, in greater or less measure, for the 'lecture.' I may be pardoned, therefore, if in this connection I discuss this question of the 'tutorial' as a form of the teacher's personal guidance. I quote what I have said elsewhere under this head; the extract will give an idea of our deficiencies in this respect.

"As we pass from the lower forms of a school to the upper the character of the tuition changes; at the intermediate stage (*i.e.*, in the I.A. classes) there is one more change and a marked one; at the B. A. stage, when university work proper begins, there is a change in kind from tuition to tutorial guidance. Even in the intermediate stage the habit of *learning by work and self-help* ought to be *encouraged;* and the habit of mental response to a connected discourse, and the appeal to ideation and imagination which a lecture makes, should begin. But for the B. A. student this imaginative ideation, which places him *en rapport* with the great ideal world, ought to be the breath of his intellectual (and personal) life. Such an atmosphere he breathes, or ought to breathe, in the lecture-room. (*N. B.*—The seminar with discussion, as the laboratory and training-ground of humanistic and other culture, comes later.) The tutor's duty (as distinguished from the lecturer's) at the B. A. stage is to enable the young mind to learn by actual work and personal study, to see by personal examination and inspection of work that this is being done, and, for this purpose, to give general explanations, directions, and references. This is tutorial guidance and supervision, and this is attempted in a few colleges." But in many cases "the tutorial (even for B. A. teaching) is another business; it is coaching, it is 'school-mastering' writ large. Now I honour the *Gurumahasaya.* I have often taken the dust off his feet. He is *sublime.* But the *Gurumahasaya* out of place is no honour to that vocation. Fancy this spoon-feeding, often with predigested food suited to school children, as supplanting (or even supplementing) university lecturing, and then fancy the spoon-feeders as inveighing against lecturing as a 'mass-method.' And then this tuition by individual attention, *i.e.*, this coaching in batches (be they of five each), given once a week, would mean ten or twelve minutes' coaching for each student in the week. This is tuition neither of the genuine school pattern, nor of the university type, nor even of the intermediate variety. In some few colleges B. A. tuition is what it should be, ensuring the actual work of the student, with explanation, guidance, and supervision, but there are other cases (how many I won't say) in which both teachers and students look upon the tutorial hour in the college routine as a harmless necessary fad, a pleasant pastime and relaxation, the firing of a blank cartridge into empty space! But real tutors are also real teachers, and *they* do not seek to retire from the lecture-room with its generous enthusiams and exaltations, its sense of wide spaces and vistas, its sympathetic resonances and imaginative responses, its interfused and illumined 'mass-consciousness' into the oblivious twilight, the arm-chair ease, and the monotonous drone (or drawl) of this so-called tutorial side-room, dedicated to the mysteries of Mumbo-Jumbo, the wooden (or paper ?) god!"

Finally, there is need for a *caveat.* Personal guidance must not be interpreted to mean that a university student should always be put in leading strings. We, teachers, must disabuse our minds of the idea that what our college students want is perpetual mending and tinkering, perpetual dosing and doctoring. A certain freedom to think, to act, and to choose studies, interests, and associations, the freedom to grow by trial and error, to

experiment and improvise, to go off on intellectual ventures and explorations is as valuable an element as an intimacy of personal relationship between spirit and spirit, between teacher and taught, and, above all, we must be on our guard against mistaking this last to mean a curateship of souls that happen to be *in statu pupillaris*.

(*b*) Calcutta is poor in libraries, and what there is of provision in this regard is not well-organised or co-ordinated. There ought to be a system of loans between a central university library and the various college libraries, as well as between the former and public libraries like the Imperial Library, the Asiatic Society's Library and the Sahitya Parishad Library. The rules relating to the use of the University Library by senior students should be far more liberal than at present. Besides, seminar libraries in special subjects ought to be attached to the seminars in the University, as well as in the colleges.

The college laboratories are, for the most part, poorly equipped. Whether a central university laboratory may eke out their deficiencies under any feasible arrangement is a question that may be referred to the scientific staff of the colleges. So far as the physical laboratory of the Presidency College is concerned it is believed to contain one of the richest and most extensive collections of apparatus of any similar institution in the world; but excepting Sir Jagadish Bose's work, I do not know if any commensurate results in the advancement of science have been achieved within its walls, or if any school of physical research has been associated with it. Not that our students are wanting in capacity; already the young men on the staff of the University College of Science who have been educated in the Presidency College are doing original work of great promise in the domain of mathematical physics. But the mere multiplication of mechanical aids and conveniences, if it outgrows the contriving and directing man-power, is, as has been found in certain foundations, a positive hindrance to that resourcefulness and mental alertness which are the best part of a scientific training. I should think that much more ought to be done than is at present attempted in our colleges by way of contriving and constructing scientific apparatus with the aid of local *mistris*, an intelligent and capable class; and this is desirable even more in the interests of real scientific training than of economy of effort or expenditure.

(*c*) Various schemes can be imagined:—

(i) Approved colleges may be allowed to hold their own examinations and grant their own diplomas. We are far past this stage, or, as others may like to put it, far behind.

(ii) Colleges or individual teachers may arrange their own courses, the University only approving them in a general way and extending recognition so far as to allow their students to offer themselves for its examinations. Practically, this would be a system of external colleges and teachers. We have had this pattern of an examining university with external colleges, and we have worked out of this stage.

What we attempt under the regulations now in force is to lay down courses and syllabuses, to enforce certain conditions of study and discipline, and, in a general way, to standardise teaching and teaching appliances by exercising our right of affiliation and disaffiliation and carrying out regular and methodical inspection. Thus we have developed a system of colleges not yet internal, nor external in the real sense of the term, and as regards the M. A. and M. Sc. teaching we have gone on to an internal system with co-operative elements which we are seeking to develop on lines of our own. In view of the fact that our college teachers in the majority of cases do not sit on the boards of studies the question of freedom of teaching may be raised as to how far individual teachers in the affiliated colleges should be free to devise courses, and whether the teachers of the same or cognate subjects acting jointly as a board should be given a free hand in devising courses and framing syllabuses. As regards the higher teaching we have attained the latter object, but as regards undergraduate studies there is great room for a reform of the constitution (and composition) of our boards of studies and faculties, with a view to the full representation of teachers (the post-graduate teaching

SEAL, Dr. BRAJENDRANATH—*concld.*

staff included). As for the freedom of the individual teacher that must be exercised within the limits of the general scheme and organisation; but no individual who has any individuality has felt hampered, by reason of the existence of these limits, in legitimate self-expression. The practical difficulties of the teacher in moulding his constructive programme after his own ideal arise from other sources—from considerations of popularity and unpopularity, the need (or the desire) to teach "to the gallery," especially where the bread-and-butter measure of educational values is too insistent or pronounced; but it is no more given to the idealist than to the lover to tread the primrose path.

There is another way in which a college may exercise a free choice, *viz.*, by choosing to specialise in some few of the optional courses that may be adapted to its own special resources or to the local needs and capabilities. Even more important would be the provision of subjects outside the university curriculum, *e.g.*, the local flora or fauna, a physiographic, archæological, or economic survey of the neighbourhood, an Indian art or culture tradition—above all, comparative literature on an Indo-European basis. The paucity, if not utter absence, of experimental variations, and the lack of the power of initiative in these directions, are due to the pressure of the economic struggle on the (*bhadralog*) in Bengal, which has used up all the store of surplus energy that usually finds an outlet in spontaneous and free play of vital construction.

As for 'freedom of study' within the limits of the university curriculum my suggestions are:—

(i) Compulsory attendance at lectures ought to be reduced to 50 per cent so as to leave more leisure for private study.

(ii) Failed candidates should be exempted from further attendance.

(iii) Six months' courses, followed by examinations, should be given in the subjects comprised in any examination scheme, and students should be allowed to offer one or more minor (or relatively independent) subjects at these examinations, the degree or diploma being conferred on the results of a final examination at which the student must offer the subjects in which he has not already passed: such a system of lectures by courses and examinations by compartments, if worked with due regard to the correlation of studies and interests, is sound (and desirable) from the standpoint of educational psychology.

(iv) In the honours and post-graduate stages the student should be allowed to offer a thesis carefully prepared under general professorial guidance in lieu of some part of the written examination.

(*d*) Among those engaged in educational work there are differences of tastes, temperaments, and gifts: some are good teachers without being good investigators, some are good investigators without being good teachers, some are both, and some are neither! Only the last are "out of place," possessing this quality in common with common 'dirt;' but the others have their uses, though perhaps in different stages and grades of the organisation. Personally, I am of opinion that the introduction of the freshmen to every great humanistic or naturalistic study should be entrusted to men who combine fertility of ideas and a sympathetic and expansive imagination with the gift of teaching (and lucid exposition); and that the higher technical or specialised branches of knowledge must not be undertaken except by those who have themselves undertaken research, the middle stages being left to experienced teachers of the average calibre. Every teacher should be entitled to claim special leisure and other facilities for research who gives evidence of possessing a turn for original work of value: but a special responsibility of producing the results of such research and submitting them to authentic and authoritative tests will, of course, attach to anyone who claims such privileges.

SEN, B. M.—SEN, BENOY KUMAR—SEN, BIPINBEHARI.

SEN, B. M.

(*a*), (*b*), (*c*) and (*d*) While accepting the ideals laid down I beg to submit that, in the present conditions, diffusion of knowledge ought to be incorporated in the statement as well.

With the funds that may be available the ideal of bringing all students in intimate touch with men of first-rate abilities would be impossible of attainment without neglecting the proper claims of primary education. It is a question of ways and means. I shall be satisfied if only the most promising students can be brought into touch with the types of men contemplated.

Some attempts are being made to provide facilities for research in Calcutta, but nothing has been done outside where there are men willing to work.

SEN, BENOY KUMAR.

This is certainly the ideal condition of things, but attention must be given to the following practical considerations :—

(*a*) It involves a large increase of the teaching staff and also of the residential system. It will not be possible to convert all the existing colleges into residential ones as that would necessitate an outlay of money which will not be soon available. And it is not desirable that the cause of higher education should suffer on that account by imposing a restriction on the number of students. We have to make the best of the existing conditions without narrowing the extent of education.

(*b*) & (*d*) Are very desirable.

(*c*) I don't see how any further degree of freedom can be allowed if we are to have a fixed standard for all examinations. Even now the curriculum fixes the limits of the particular subjects to be taught, but does not limit the teacher to any particular text-book.

SEN, BIPINBEHARI.

(*a*), (*b*), (*c*) and (*d*) My answer to the four sections is in the affirmative :—

(*a*) But the students in this city are so innumerable and so widely scattered for want of means and of hostel accommodation that there are great practical difficulties in bringing them under the personal influence of able and experienced teachers unless the teachers and their students happen to reside at least in the same locality. Hence arises the necessity of more hostels, with quarters for the teachers entrusted with the guidance of students in their subjects.

(*b*) Though there are several good libraries and laboratories in this city they are under the control of different authorities. Under the existing conditions, therefore, they cannot be used to advantage even by the advanced students of the University. Nor is there a central library well-stocked with books and periodicals to which students have easy access. The University Library, though a noble collection of works of great value and usefulness, is still incomplete. Either the Imperial Library should be so improved as to make it an intellectual paradise for scholars and teachers, or the University should induce the heads of the leading colleges and other institutions to throw open their libraries and laboratories under certain conditions to students of advanced courses of study. In this country books not used as text-books can hardly be purchased. I think it is the business of the University to edit or reprint works of educational value so that they might be at once cheap and easily available.

(*c*) I beg to suggest that post-graduate and honours students should have more freedom in their studies; and they need more of direction than of tutoring. They, therefore, need not attend a high percentage of lectures; and the professor teaching a subject may be authorised to grant exemption from attendance in special cases. Learned and interesting lectures seldom fail to attract earnest students, while indifferent students cannot be made to be attentive, especially in huge classes. As a general rule, I suggest that in the case of a two-year course an annual list may be imposed, and that more importance should be given than at present to tutorial work for average students.

(*d*) Teachers should have sufficient leisure both in schools and colleges to prevent them from degenerating into intellectual hacks. But their leisure should not be so profuse as to give rise to indolence and intellectual lethargy on their part.

The education in this province should be one continuous process. There should be a co-ordination of the systems of education already introduced. The success of the ideal aimed at by the University depends on the efficiency of the secondary and primary schools in the province. But the condition of these institutions is not satisfactory. In the secondary schools of this province teachers are generally overworked and underpaid so that the profession of teaching in schools does not attract good graduates. In the school stage the formation of the character of the students begins and, therefore, they require the careful and the sympathetic guidance of competent teachers who have the temperament and natural aptitude for their task. If the quality of teachers in secondary schools is improved by more careful selection, better pay and prospects, and reasonable freedom in their work the cost of inspection will naturally diminish. It is on the floor of the school-room that boys should learn to fight their battles in life and, therefore, more attention should be given to the substance than to the show of education, more to instruction than to inspection.

SEN, Rai BOIKUNT NATH, Bahadur.

(*a*), (*b*), (*c*) and (*d*) My answer is in the affirmative.
The ideal is *attainable* under the existing system in Bengal.

SEN, NIKHILRANJAN.

Small batches of students working under the guidance of able and distinguished teachers with a large degree of freedom of study and teaching is an ideal arrangement. It is also necessary that the best libraries and laboratories should be at the disposal of students and teachers and the latter should also be given ample leisure to carry on original investigation.

The above system, however admirable, cannot immediately be applied to this University. In the first place, an adequate number of able teachers cannot be found for the huge number of undergraduates of the University. The teacher must be intimately known to every one of the students under his care and can be entrusted with only a reasonable number of them. According to the present system every teacher has to spend most of his time in teaching work and has nothing left for original investigation.

SEN, RAJ MOHAN.

(*a*), (*b*), (*c*) and (*d*) We have here the ideal condition which a university should try to reach.

This ideal is not attained, and, I think, will not be attainable in Bengal for a long time to come.

(*a*) The total number of teachers now engaged in our colleges, not to speak of those of first-rate ability and of recognised standing in their subjects is too small com-

pared to the number of students. If students are to be placed under the personal guidance of teachers then the number of the latter must be considerably increased.

(*b*) This is purely a question of money. If the necessary amount of money can be found we can have well-equipped libraries and laboratories for all the colleges.

(*c*) Freedom is good, but it should be within certain limitations. In a large university like that of Calcutta too much freedom of teaching and of study may lead to confusion.

(*d*) I do not think that the want of sufficient leisure is the only reason why teachers in Bengal, with some honourable exceptions, do not generally pursue independent investigations in their subjects. The spirit of doing original work is yet to be created not only among students, but also among teachers, both European and Indian.

SEN, Dr. S. K.

(*a*), (*b*), (*c*) and (*d*) Yes.

SEN, Rai SATIS CHANDRA, Bahadur.

(*a*), (*b*) and (*c*) Yes.

(*d*) Teachers should have sufficient leisure. A really capable teacher who knows his duty, and who has aptitude and a desire for original work, will utilise his leisure ; but a teacher, who is not of the above description, will not do so. There ought to be some supervision of their work during their leisure consistent with the maintenance of their independence.

The ideal is not attained under the existing system, but it is attainable if the standard indicated be realised by the provision of suitable *funds* to carry out these functions. I understand there are no well-appointed libraries or laboratories except in one or two colleges. There are no well-equipped and well-kept common rooms where students and professors can freely meet. European professors nowadays do not freely mix with Indian students. They live in splendid isolation. Indian professors are overworked, most of them working eighteen hours a week. Professors ought to be provided with quarters within the compound of the college hostels or near by.

SEN, SURENDRANATH.

(*a*), (*b*), (*c*) and (*d*) It will be futile to claim perfection for any human institution, and much less for the Calcutta University. Yet, it can be safely asserted that the University in its own way has served the cause of education well, and with a few, but salient, reforms will perform its functions still better. The conditions laid down about the functions of a university can be accepted with some qualifications in view of the peculiar circumstances of India. Personal guidance of an able teacher is, no doubt, necessary for the intellectual welfare of the student; but mere ability on the part of a European teacher will not answer our purpose. The student must not be reminded that he belongs to a dependent race. A contemptuous attitude on the teacher's part will stifle entirely the spirit of enquiry in the student, and will inevitably drive him to be on the defensive whenever any enquiry about the history of his country and religion may be instituted. Teachers should have sufficient leisure to be able to pursue independent investigation in their own subjects but should, on no account, be entirely exempted from teaching work.

SEN, SURENDRANATH—*contd.*—SEN, SURYA KUMAR—SEN GUPTA, HEMCHANDRA.

The ideal laid down has been partly attained in the University Science College and the post-graduate classes. The same ideal was aimed at by Sir Asutosh Mukherjee (*vide* his convocation speech of 1913) when, as vice-chancellor of the University of Calcutta, he invited European scholars such as Dr. Fisher and Dr. Vinogradoff to deliver courses of public lectures at Calcutta. But, on the whole, it cannot be claimed that the ideal has been fully attained. The prinicipal causes of this failure are the poverty of the mofussil colleges and of the University in general; and the needless control exercised by the provincial and the imperial governments over the University of Calcutta.

SEN, SURYA KUMAR.

(*a*) The idea of placing students under the personal guidance of teachers of first-rate ability and of recognised standing in their subjects is noble, but I fear it cannot be given effect to without increasing the expenses of education. English education will, consequently, be the luxury and privilege only of the rich.

(*b*) Libraries and laboratories should be gradually improved.

(*c*) There should be a large degree of freedom of teaching and of study.

(*d*) Teachers should have sufficient leisure to be able to pursue independent investigation in their own subjects.

The standard indicated cannot fairly be applied unless the colleges be favoured with substantial help by Government.

SEN GUPTA, HEMCHANDRA.

(*a*), (*b*), (*c*) and (*d*) I share the view that the functions of a university should be as stated.

(*a*) There are many teachers of first-rate ability and of recognised standing in their subjects. The classes are generally so large that students cannot be placed under their personal guidance. One remedy would be to introduce the residential system under which teachers and students live together or near one another But this system is so costly that it will not be possible on a large scale. The alternative remedy is to divide the highest classes, the honours, M.A., and M.Sc. classes, into a number of sections, each section consisting of a moderate number of boys, the number of teachers being also increased in a corresponding manner. Teachers should be induced to learn German and French so that they may be up to date in their subjects. Teachers should, as far as possible, be Indians because they can understand well the defects of their boys and are more accessible to them. Teachers should be deputed from time to time to the great centres of learning in the West.

(*b*) Although our libraries and laboratories have improved considerably they are insufficient in number and quality to meet the needs of the inquisitive teachers and students.

(*c*) At present, we have to observe the syllabus prescribed by the University so that there is no freedom in teaching it. Of late, an amount of freedom has been granted to us in the M.A. and M.Sc. teaching. But more freedom is necessary in the honours classes.

(*d*) Teachers have not sufficient leisure to pursue independent investigation in their own subject. They are all married men with big families and need handsome incomes. But they are very ill-paid and, therefore, discontented. They have not the means to buy books. Most of them have no spare room in their houses where they can study. Many teachers have often to get other sources of income, such as private tuition. Many of them are teachers because they have no other alternative.

SEN GUPTA, Dr. NARENDRANATH.

(*a*), (*b*), (*c*) and (*d*) The reply to all four is in the affirmative.
I hold that the ideal can fairly be applied to Bengal.

(*a*) The term "first-rate," however, is misleading. It should be taken to mean 'the best person available under the circumstances.' We must not limit education simply because the ideal teacher is not forthcoming.

(*b*) A good library is the prerequisite of education anywhere in the world and particularly in Bengal. For, here, the student cannot turn to any well-equipped city library if his college library fails him. A number of good libraries can be built up if the colleges co-operate, if the closely situated colleges combine their resources.

(*c*) The reply is an unconditional 'yes.'

(*d*) It is, of course, desirable that teachers should have leisure. But mere leisure would not create research workers. Nor it is possible for everyone to undertake research work. It should be frankly admitted that all research workers do not make good teachers and that research work is not a prerequisite of good teaching. The prospective researchers would be given a chance for study if his maximum and minimum working hours be fixed and if he have access to libraries and laboratories.

SEN GUPTA, Dr. NARES CHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes.

I do not think this ideal is attained. I consider it to be attainable with considerable modifications in the present system.

Men of first-rate ability are not very plentiful. This is due to the system of recruitment and the conditions of service in colleges. I have had experience as a teacher in two private colleges, the University Law College and in a Government college, and I have found that the conditions of service are everywhere such as to discourage the development of all that a man is worth.

In private colleges the salaries are comparatively low, and the libraries far from satisfactory. In some, teachers labour under an insufferable sense of subordination to authorities. In these, loyalty to the work is very deficient in professors; while in others, where professors have a real share in the conducting of the college, I have found wonderful devotion to work in comparatively ill-paid professors. These private colleges also suffer from a comparative paucity of the best class of boys who greatly stimulate the work of the professors.

In Government colleges salaries are better, but still not sufficiently attractive to always draw the best men, who prefer to go to the Bar or join the other better-paid services. There is also a great damping influence in the badge of inferiority imposed on Indian teachers by their being placed in a lower cadre. So far as European professors are concerned the quality of their work is far from improving. Graduates fresh from colleges in Europe are appointed professors in a grade which entitles them to claim superiority over Indian professors of ability and experience, while the time-scale of promotion ensures steady advancement to a pretty high salary. There is hardly any external stimulus to self-improvement such as is given by the need for making one's position better.

I must say that there are many men of first-rate ability in both the services as they are, but I think they are there in spite of the system.

I think that the salary of professors in private colleges ought to be increased, and the appointments made for long terms on a time-scale of promotion.

In each college there should be different grades of teachers attached to the colleges. Student-teachers, tutors, assistant professors and one professor in each subject.

A large number of first-rate scholars will, no doubt, have to be imported from abroad to start with, but they should be first-rate men. No foreigner should be imported from the sole consideration of a policy to have a fixed number of Europeans in the service.

SEN GUPTA, Dr. NARES CHANDRA—*contd.*—SEN GUPTA, SURENDRA MOHAN.

Europeans appointed to educational services may be teachers of ability and experience who have a reputation for scholarship, and younger men of promise taken from men like fellows of Cambridge. Neither the first class nor the second can be obtained on the terms usually offered. To secure such men a sufficiently high starting salary, with a fair margin for improvement, should be offered. The present graded system, while it does not offer a sufficiently high starting salary to real experts, is, on the other hand, wasteful in the case of indifferent teachers. There are European teachers who may profitably be replaced by capable Indian teachers of experience.

I am afraid that in the matter of the appointment of Europeans a feeling prevails that the service ought to have a leaven of Europeans as such. This is a very wrong point of view. The leaven of Europeans of superior merit is undoubtedly necessary just now, but not of *any* European. I should suggest, therefore, that no European should be appointed on a starting salary of less than Rs. 1,000. It would be a good idea to appoint, say, a dozen Europeans to principalships and professorships —the appointments being made to specific posts—with salaries ranging between Rs. 1,000—50—1,500, and Rs. 2,000—50—2,500. This would effect a saving which may profitably be spent in improving the salaries of Indian teachers. There should, of course, be no bar to an Indian as such being appointed to these professorships, but it should be a rule that no teachers should be recruited abroad for posts lower than these.

These first-rate men will have a tremendous influence on the other professors from amongst whom we will see developing those who will be able to take their place, or even improve upon them.

I also think that it would be advisable to give facilities to Indian professors to visit European and American universities. Government might send them on deputation or give assistance in other forms. This would widen their outlook and must improve their work. I insist, however, on their being men who are actually engaged in the work of education. Their practical experience in the work of education would enable them to profit by their tour far more than could be possible for a graduate fresh from a university. The professors so sent out might spend some time in the leading universities of Europe, America, and Japan. I should suggest an experiment with four professors as soon as the war is at an end.

These improvements in the position of professors, carried out side by side with improvements in the methods of education elsewhere suggested, and increased facilities for boys and girls working in well-equipped libraries and laboratories will, make it possible to attain the ideal in a comparatively short time.

I assume that professors and colleges should have greater freedom. The University should lay down the syllabus upon which students would be examined, but each college may insist on and provide additional instruction in such manner as it chooses. In this way colleges will develop individualities of which students will be proud. At present, education everywhere is cast more or less in the same mould and the tests everywhere are identical. There is no room for a special feeling for a college or special value in instruction in a college. Naturally, there is hardly any spirit of emulation in students or colleges.

SEN GUPTA, SURENDRA MOHAN.

(*a*) Yes; but I consider personal guidance to mean that the relation between the teacher and the taught must be more intimate; not that a single teacher should be placed in charge of a very limited number of students.

(*b*) Yes; if the student has got a previous general training, with demonstration in scientific subjects, then only can he take advantage of a good laboratory and library; otherwise, he would tend to become more and more mechanical.

(*c*) Yes.

(*d*) Yes.

This ideal is not attained, nor is it attainable, under the existing system in Bengal.

Serampore College, Serampore—SHARP, The Hon'ble Mr. H.

Serampore College, Serampore.

(*a*), (*b*), (*c*) and (*d*) We agree that university training at its best includes the four points mentioned.

This ideal is not yet attained. It is now being attempted in the post-graduate M. A and M. Sc. classes, and there it ought, within a reasonable time, to be attainable wholly, or to a very considerable degree. As things are at present, real university work in this country begins at the M. A. and M. Sc. stages. The average graduate in this country begins his so-called post-graduate work where the average undergraduate at Oxford, ambitious for honours, begins his university course, and, in some respects, the latter is far better prepared.

While we recognise that the true university ideal requires a large degree of freedom of teaching and of study we realise that, so far as the pass degree is concerned, the syllabus must be fairly definite. For honours work, as in the case of the M. A., a larger degree of freedom might be possible provided the work is concentrated in central institutions in which the University can effectively supervise and control the standards to be maintained. We think it would be unwarrantable, and calculated to lead to disastrous results, to assume that all colleges now in affiliation with the University could safely be trusted with a large degree of freedom of teaching, and with the maintenance of sound university standards. The very existence of some colleges is dependent on the maintenance of *low* standards.

(*c*) The ideal will be attainable in so far as certain collegiate foundations of the highest standing and reliability may be entrusted with the higher work, and real responsibility with regard to maintaining their own standards under proper university supervision.

SHARP, The Hon'ble Mr. H.

(*a*), (*b*), (*c*) and (*d*) I consider that university training at its best involves the four conditions stated.

Each of these conditions is considered below with reference to the questions:—

Is it attained in Bengal?
Is it attainable in Bengal?
Is it applicable to conditions in Bengal?

(*a*) There are instances, both in Bengal and elsewhere in India, of the existence of staffs which would fairly fulfil this condition. The staff of the Presidency College, Calcutta, has generally maintained a high level. I could instance a case of a college in India which possesses on its staff two fellows of colleges at Oxford and Cambridge, as well as other first-class men. I could instance others where the staff, though less brilliant, is fully competent, both in numbers and in qualifications to teach the courses attempted. Generally speaking, however, this condition is not attained. The qualifications of at least a considerable portion of the staff are not up to the mark; the staff is numerically incapable of dealing with the number of students; and the cost at which many institutions are maintained is quite insufficient to permit of the employment of a reasonable staff. In the class of colleges (namely, the unaided) which educates a larger number of students than any other class of colleges, the average proportion of students to teachers is 40·9 to 1 and the average cost of a student per annum is Rs. 48-3-5. The average annual cost of a student at the University of Birmingham is £48, at the University of Liverpool £92, at Aberystwyth University College £43, and at Hartley University College £67. These averages are slightly excessive as they are calculated on the total recurring cost of institutions and number of whole-time students, without reference to part-time students. But the contrast is sufficiently striking.

There are two main difficulties ordinarily alleged as making fulfilment of this condition impossible.

(i) It is said that the Indian student is too poor to pay for a good staff. If this represents a permanent and irremediable defect then it would be best to face

the fact that much of what we now call university education, but which cannot properly be called by that name at all, must, for the future, be known as some thing else. For we cannot afford "to degrade our highest educational ideal."

(ii) It is stated that men of first-rate ability and of recognised standing will not come to India. This is not altogether true. Some such teachers have come to India and India herself has produced some teachers possessed of high ability in their subjects. For the most part, however, it is true. The reason is a matter not so much of money, as of opportunity.

The phrase "teachers of first-rate ability and of recognised standing" in its highest acceptation is not fully applicable to India. As already stated under question 1 we are building upon insecure foundations. It is the foundation, rather than the superstructure which requires most care at present. What India needs is not men of European reputation but men who are capable of inspiring more life in our high schools and our undergraduate classes. I could instance colleges in India which are admirably run and which have been electrified into really living organisms by one or two men of the public schoolmaster type with a staff of assistants which, according to the criterion here suggested, could only be considered very mediocre. The teacher of recognised standing in his subject will indeed be able even now to play a useful part in India; but he cannot pull his full weight till the schools and colleges are capable of providing him with more worthy material. At present, we must regard him as a luxury to be encouraged, but not as a vital necessity.

(*b*) Libraries save in a few college centres are defective. Nor is it financially possible under an affiliating system to provide a number of adequate libraries equal to the number of colleges, many of which have not the resources to enable them to start or to maintain good collections of books. A certain amount may be done through circulation and reciprocity. These will form important subjects in the discussion at the All-India Conference of Librarians which will meet in January next. But nothing which can be devised either at that conference or by other means is capable of forming an adequate substitute for the existence upon the spot of libraries which shall always readily be open for consultation by students.

There has been a marked improvement in the condition of laboratories not only in Bengal, but throughout India during the past decade. All credit is due to the universities for insisting upon, and the college authorities for co-operating in, this much needed reform. In the more important colleges the provision already made is probably adequate for the present. But, here again, difficulties exist, or are likely to arise, in the case of small mofussil colleges or financially weak institutions.

(*c*) The degree of freedom of teaching and of study which has been attained in India is altogether inadequate. Nor is any adequate degree attainable under the present affiliating system. The reason for this is twofold.

(i) However strongly it may be asserted that there is no reason why means should not be devised to give scope to freedom of teaching and study under an affiliating university, nevertheless, in practice, uniformity is bound to be the rule. Where the powers of a university are limited to affiliation, inspection and examination over a very large number of colleges, while any effective control of teaching is out of the question, it is inevitable that certain type-plans should be formulated as touch-stones for appraising the possibilities of an institution and the attainment of its students. The University is faced with the problem of examining large numbers of students regarding whose actual instruction it can have little or no information. In self-defence, therefore, it is bound so to indicate the course of instruction that something of a common standard may be set up in the valuation of answerpapers written by candidates from numerous colleges of variable calibre.

(ii) The majority of the teachers in Indian colleges are Indians trained in Indian universities, under a system which does not encourage freedom of teaching, or of study. They have themselves sat at the feet of professors some of whom in turn have been trained under a like system and others of whom, however

SHARP, The Hon'ble Mr. H.—*cont.l.*—SHASTRI, PASHUPATINATH—SHASTRI, Dr. PRABHU DUTT.

much their own instincts and traditions may have urged them towards originality, found themselves confined by a strictly prescribed curriculum and by the demands of the students for a species of instruction directly calculated to assist in answering examination questions of the accustomed type. It is, therefore, little wonder if the tradition of originality in teaching does not exist to anyvery large extent, with the result that originality of study is neither desired by the student nor encouraged by the teacher.

The laying down of a syllabus, or the prescription of text-books, does not necessarily preclude originality of teaching. At the same time, such things cannot be said to encourage it. The main difficulty is the examination and the anxiety of the students and their parents regarding success therein. The multiplicity of colleges and of students and the exigencies which these lay upon the examiner are contributory factors. Under the present system a large degree of freedom of teaching and of study is an ideal inapplicable in Bengal. Under some system as that suggested in my general note and developed in answer to questions 4 and 5 this ideal would become attainable to a much greater measure.

(*d*) The great majority of teachers in our colleges certainly have no leisure for independent investigation. They are paid to deliver lectures; and those lectures must be as numerous as possible during the day in order that the requirements of the University may be fulfilled compatibly with the admission of the largest possible number of students.

The desired condition of things is unattainable until a sufficiency of staff is insisted upon by the University and colleges can occupy a stronger financial position.

In considering whether independent investigation by teachers is a condition applicable in Bengal it has to be borne in mind that the majority of students in the colleges of Bengal are really in the schoolboy stage and their mental condition calls for the methods proper to a secondary school, not for the instruction necessary in university education of the true type. The answer to this question, therefore, as regards applicability is similar to that under question (*a*), *supra*. Independent investigation, like the teacher of reputation, is a thing to be welcomed as a stimulating asset. At present, however, the main work of the professor is the more modest and humdrum task of developing in his students the mental attitude which will enable them to participate in university studies. I would also refer to the close of my answer to question 7.

SHASTRI, PASHUPATINATH.

(*a*), (*b*), (*c*) and (*d*) As regards the ideal indicated there can be no doubt that the idea is a very desirable one.

The ideal is not now attained. The difficulty is that it is almost impossible to take personal care of so many thousands of students. The standard may be applied to a limited number of students only.

SHASTRI, Dr. PRABHU DUTT.

(*a*), (*b*), (*c*) and (*d*) I quite agree with this view as to the functions of a university.

Under the existing system the ideal is neither attained, nor attainable. How far and how soon it can be attained is, above all, a question of finance. If sufficient funds are available the number of educational institutions should be increased, the number of Government colleges should be determined by the number of students desirous of receiving their education, the size of classes should be reduced, and, consequently, the number of teachers also will have to be increased. In an institution like the Presidency College the ideal could easily be attained if the provisions under (*c*) and (*d*) of this question are carried out. In mofussil colleges, however, the ideal is much more difficult to be attained.

In the interest of general efficiency I would suggest that suitable provision should be made for training all teachers of colleges in the principles of method and the practice of teaching. A few months' course at a training college should prove very beneficial. It

is not proposed that lectures in colleges should be exactly like lessons in schools so far as the application of the principles of method is concerned, but with an acquaintance of such principles and the acquirement of some training in the practice of teaching the teacher will feel more confident and will, other things being equal, be more successful in the presentation and exposition of his facts. The need for training arises from the fact that even some of the most learned scholars do not always prove very efficient *teachers.*

SINHA, ANANDAKRISHNA.

(*a*), (*b*), (*c*) and (*d*) University training at its best certainly involves all these functions.

This ideal is neither attained, nor attainable under the existing system in Bengal. University education includes both the four years' training in the undergraduate classes and the two years' course in the post-graduate department. If we confine our attention to the undergraduate course we shall find that this ideal of university education has not been attained, nor can it be attained.

(*a*) There is a want of men. Brilliant students of this University who with a little effort may turn into teachers of first-rate ability are often led astray (if I may use the phrase) into law, executive, and judicial service purely because they find no prospect in the Education Department. Education, which is the mother of civilisation and good citizenship, instead of being properly cared for is somewhat neglected by Government. The sum spent on this department is abnormally insufficient considered with reference to other departments, like the army and railway. The pay is poor and promotion slow. The authorities of private colleges fix the lowest sum possible which the economic condition of the middle class from which the largest number of teachers is recruited forces them to accept. To add insult to injury the tenure of their office is made to cease at the option of the authorities.

In Government service there is another crying injustice which every self-respecting man finds it difficult to put up with —I mean the superseding of veteran Indian professors by raw Europeans. If merit and service have been the criterion of ability in this department no logic would have prompted Government to supersede these Indian teachers who know so much of the want and character of the Indian students, have got so much experience at their back, and are at all inferior to them in qualification by second and third-rate European teachers. One might have hoped that in this sacred Department of Education the question of colour would come last. So long as this injustice is not remedied, and so long as the economic condition of this department is not improved, it is vain to expect to place the students under teachers of first-rate ability and of recognised standing in their subjects.

(*b*) Unfortunately, few colleges have well-appointed libraries and laboratories. With the exception of the Presidency College and the University Library the want of good libraries and laboratories is keenly felt everywhere. Private colleges with their limited funds, with no public endowments, cannot hope to cope with this question successfully. Every college should have a grant for the proper equipment of its library. The question of the laboratory may be tackled in another way. Almost all the colleges in Calcutta are situated within the circumference of a mile (except St. Xavier's College), and the foundation of a big central laboratory in a central position, where the students of all the colleges would do their practical work, may solve the problem.

(*c*) That real education implies a large degree of freedom of teaching and of study cannot be questioned. But under the existing system of university examination this is not very easy to do. The University prescribes certain books and certain topics and on these books and topics students are examined. Passing of examination being the only gate to material preferment in life the average student cares only for them. The texts being also heavy the teachers

get no time to go beyond them. So the freedom of teaching becomes almost impossible and a teacher cannot go beyond recommending certain books for higher study. So long as the present system of taking students through one general and stereotyped course, without any reference to their individual taste and future calling, is followed, freedom of teaching and study, which is essential for every branch of higher education, cannot be really pursued.

(*d*) Teachers in private and Government colleges are generally so overworked that they find very little time to pursue independent investigation. The fact that so little has been done in India in the way of independent investigation is largely due to this want of opportunity and resource. Individual curiosity had never been absent but the condition that fostered that spirit was wanting. The post-graduate department where professors are given light work is a right move in this direction, but some of them also go to the opposite extreme of not teaching at all. Steps should be taken by which the work of the teachers in other colleges may be lightened, and opportunities offered for research work.

SINHA, Kumar MANINDRA CHANDRA.

(*a*) Yes; it is the personal element which counts most in teaching, and which is lacking in the present system.

(*b*) This is without question; but the supplying of libraries and laboratories is linked up with the question of finance. In England libraries are largely the gifts of donors and other helpers. This is sadly wanting in India.

(*c*) Certainly; it is absurd to tie a teacher down to hard-and-fast rules which stunt the growth of students.

(*d*) Yes; as this would tend to improve their knowledge. No lecturer should lecture more than three hours a day; and a premium should be set on original research in the subject taught by a lecturer.

I think the ideals are attainable in Bengal provided every encouragement is given by Government and the educational authorities. Next to the guarding of the country the duty of every Government is primarily the education of its citizens, and this duty cannot be laid aside without leading to disaster. Much of the want of good learning in India is due to the non-adherence of a settled policy of Government with regard to education; witness the several changes in the policy of Government with regard to universities in India.

SINHA, PANCHANAN.

(*a*), (*b*), (*c*) and (*d*) I fully endorse the view of the functions of a university laid down.

The ideal has not been attained under the existing system; whether it is attainable or not is difficult to say. For the existing system has hardly had a fair trial so far as the equipment of our University has been hardly satisfactory.

The standard indicated cannot fairly be applied. To condemn the system because neither Government nor the people have opened their purses sufficiently wide for the proper equipment of the University is hardly fair.

SINHA, UPENDRA NARAYAN.

(*a*), (*b*), (*c*) and (*d*) University training at its best should certainly involve the ideals laid down.

This ideal has not yet been attained by the University of Calcutta. It is necessary that the University should, to a certain extent, be both teaching and residential if this ideal

is to be fully realised. No doubt, our University has of late taken up in right earnest the question of post-graduate teaching. It is too premature to express any definite opinion in the matter. But it is evident that the ideal can be attained if *only teachers of first-rate ability and of recognised standing* be placed in charge of higher studies in the University college which should be, as far as possible, residential.

SIRCAR, ANUKUL CHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes; further teachers who have done some original work or have attained eminence in other ways should only be allowed to teach the highest class.

The ideal has not been attained, but is attainable under a somewhat modified system of education.

SIRCAR, The Hon'ble Sir NILRATAN.

(*a*) and (*b*) Yes.

(*c*) I agree with this view, with the qualification that a certain degree of control is necessary where most of the colleges are not liberally equipped with large libraries and good laboratories or manned with very efficient staffs; as, otherwise, such freedom as is contemplated in the question is likely to lead to degradation of standard.

(*d*) Yes.

I believe that the ideal is attainable under the existing system in this presidency.

There should, however, be a central library which should lend books freely to university students enrolled in any college.

SLATER, Dr. GILBERT.

(*a*), (*b*) (*c*) and (*d*). The Madras University, though probably not inferior to the Calcutta University, certainly falls a long way short of the desiderata specified. The appointment of university professors, which has been begun tentatively, is intended to do something in the direction indicated. A recent debate in the senate of the University of Madras appears to indicate that in the opinion of the senate the short experience which has now been obtained indicates that a great deal may be hoped by further progress on these lines. What is necessary is that the appointment of university professors should be regarded as only the first step in the development of definite departments of the University, the further steps required including not only material equipment, such as libraries and laboratories, the necessary assistants, but also a harmonious co-ordination of the work of the University with that of the colleges.

Since my appointment there have been some small developments in the direction of creating an organised Department of Economics. In the past two years four research students have been appointed who are working under my direction, each of whom is a graduate in honours. On these lines we may hope to provide a supply of young teachers in colleges who have been trained to regard economics as a field study, and to supplement the reading of books with personal investigation and original thought. That habit, we hope, once acquired will not readily be lost. Other students are urged to do original investigation in their native villages during the long vacation; a questionnaire has been prepared to help them. A considerable proportion of the lectures which I have given to university students in Madras have been circulated in the colleges preparing honours students in order to unify and modernise the teaching in those colleges. The University has begun the publication of an Economics Series for the same purpose; we hope it will also be of service to students of Indian economics generally.

I would refer to the proposed regulations for a diploma in economics as adopted by the senate on the recommendation of the syndicate. The objects aimed at are to make the study of economics more concrete and vital, and to bring the University more into touch with the general life of the city and the Presidency of Madras. Other plans will be submitted to the governing body of the University in due course.

I should like here to refer to the question that has recently been under debate, whether university professors should be appointed, paid, and dismissed by the universities or by Government. The first alternative appears, on the face of it, to be the proper arrangement; but I think that in India some special safeguards of the professors' status and independence are required. It is, at present, not at all an inconceivable thing that a professor of economics, for example, might be dismissed by the University for expressing unpopular opinions on any of the burning questions which are both economic and political. I, therefore, think it is desirable that every university professor should, on his appointment be given a certain status in the Indian Educational Service, and that his appointment should not be sanctioned unless he be worthy of that status; and that when he leaves the service of the University, unless he is dismissed for bad conduct, he should be offered employment in the Indian Educational Service.

SMITH, W. OWSTON.

(*a*) Yes.
(*b*) Yes; certainly, especially senior students.
(*c*) Yes; provided, of course, that the teachers are as described in (*a*).
(*d*) Yes; provided as above.

The ideal is partly attained in a few places, hardly approached in some others. To make it attainable the existing system would have to be modified and the kind of men described in (*a*) obtained in considerable numbers. It would be necessary also that they should be versatile, sympathetic, and free from prejudice, and that they should be permanent or semi-permanent in their posts and be trusted and treated with respect by Government and by influential Indians leaders of communities.

The standard indicated above can be applied only to a comparatively small number of colleges and students of superior intelligence desirous of real education. Something lower, however, aiming at the production of clerks, commercial travellers, lawyers, and subordinate officials, serves a very useful purpose. Only it is difficult to combine the two. If we adopt the second or lower view we should aim frankly at the production of efficient clerks and officials. I think there ought to be two quite different kinds of colleges for the two purposes, and that the attempt to combine them leads to confusion.

SÜDMERSEN, F. W.

(*a*), (*b*), (*c*) and (*d*) There can be, of course, no hesitation in accepting the formula given as to the purpose and meaning of a university education, and as to the means by which alone it can be secured.

There remains, therefore, the question whether such an ideal can be realised under the existing system in Bengal; or whether in the conditions prevailing there some lower standard should not be applied.

(*a*) It is impossible in the conditions in which education is now being carried on to accept as a practical basis the standard set forth by the Commissioners. It is not only that finance is inadequate, and will remain so for many years to come, but that the policy pursued by the University has not produced the men contemplated. Importations are expensive, and even the importation cannot be always said to come up to the level that is required for real university work. The numerous and crowded colleges that constitute the Calcutta University make the whole position impossible. Nor could such teachers maintain themselves in the unintellectual atmosphere that is generally found in our colleges

(*b*) Well-appointed libraries and fully-equipped laboratories, sufficient for the needs of advanced students are impossible in mofussil colleges under present conditions. In Calcutta such difficulties should not be insurmountable.

(*c*) With the average teacher that is found in Indian colleges a definite prescription is called for. But few teachers have, in such subjects as philosophy, a clear and defined mental attitude; their view varying with the text-book more immediately under their survey.

Further, the examining arrangements would require a complete revisal. The general tendency in recent years has been to secure the work at the lowest possible cost. An examiner in the B.A. gets 8 annas for marking half a paper. A candidate's papers go to five different men. With the lenient standard which has grown into a tradition it is very unlikely that a majority of them will refuse to give the low minimum required for a pass. It is doubtful, too, if many of the examiners who are usually appointed have a sufficient range of knowledge to be able to give suitable credit for new matter introduced into an answer. Practically also it will be found that the marks are so divided up and fractioned that the process of marking is a piece of the purest mechanical drudgery with no margin left for an examiner's discretion.

(*d*) But few college teachers are qualified, whether by early training or by disciplined habits, to pursue independent investigation. What India needs more than anything else at this stage is a body of good, capable teachers with a reasonable range of knowledge of the subject or subjects which they profess and with a sufficiency of energy and determination to impart their knowledge and to see that it secures a reception. The University could do its part by insisting on substantial standards of attainment by its examinees. But research and independent study is still possible even under present conditions. All professors enjoy at least four months' leisure in the year and the hours of their teaching amount usually to but sixteen or seventeen per week—a not hopeless position to a determined man.

SUHRAWARDY, HASSAN.

(*a*), (*b*) and (*c*) Yes.

(*d*) Yes; very necessary.

The ideal is not attained, nor attainable, under the existing system in Bengal. There are too many students in the classes to receive individual attention from teachers. The number of demonstrators are too few, and the method of teaching defective, *e.g.*, in the Medical College in the close atmosphere of the Anatomical Department four demonstrators go on repeating the same subject to batches of students from 10 A.M. to 4 P.M., with the result that they have to hurry through the work, and towards the latter part of the day become so tired out that their teaching has very much less value than if there were relays of demonstrators in the mornings and afternoons.

SUHRAWARDY, Z. R. ZAHID.

(*a*), (*b*), (*c*), (*d*) and (*e*) Yes.

The ideal is not attainable under the existing system in Bengal. Students should live in a university town outside their home and other surroundings. I beg reference to my answers to other questions for further reasons.

THOMSON, Dr. DAVID.

(*a*), (*b*), *c*) and (*d*) I consider that the four attributes stated give terse expression to what ideal university training ought to involve.

It is an ideal, however, only attainable in countries possessing a sound system of primary and secondary education, an enlightened proletariat, and abundant financial resources. In all these respects Assam (and, presumably, also Bengal) is deficient. The defects are, however, not irremediable. I know no reason why there should not be a gradual approximation to this high ideal even in Assam.

TIPPLE, E. F.

(*a*), (*b*), (*c*) and (*d*) In addition to the four items specified a fifth appears to be necessary, *viz.* :—

that the mental atmosphere prevailing among staff and students at the institution must be one imbued with a spirit of intellectual enquiry and healthy criticism.

There is, in my opinion, considerable doubt as to the possibility of obtaining and maintaining these necessary conditions and standards at more than one centre in India at the present time by reason of the low standard of attainment achieved in the secondary schools of the country.

TURNER, F. C.

(*a*), (*b*), (*c*) and (*d*) I agree generally with the statement given of the requisites for university training.

(*a*) and (*c*) Are dependent upon personnel.

(*b*) and (*d*) Are largely matters of expense.

(*a*) May be fulfilled only if the number of students under the University is reduced very considerably indeed. The number of persons at present engaged in university teaching who are properly qualified for such work is certainly not greater than at Oxford or Cambridge, so that it may be urged that the number of students under the Calcutta University should not be greater than the number under either of those universities. The choice is between educating a few students well and giving a smattering of education to a large number; and though this choice has never been fairly faced there can be no doubt that efficiency has been made to yield to numbers.

This part of the question involves also financial considerations and it might be well at this point to give a rough calculation of the cost in this country of a college which might be held to satisfy reasonable conditions of efficiency. There is considerable difference of opinion on the numerical proportion the staff should bear to students, but it may safely be said that there should be at least one teacher in each subject to every 50 students in that subject. Suppose there are 600 students in a college affiliated only in pass subjects of whom 250 are in the B.A. and B.Sc. and 350 in the intermediate classes. According to the present University Regulations each of the former must offer four, and each of the latter five, subjects. (It is usual to reckon the numbers of subjects as three for the B.A. and four for the intermediate, the compulsory vernacular being disregarded. I am strongly of opinion that the vernacular should be treated as a subject of first importance up to the B.A. and B.Sc. degrees and that the same degree of attention should be paid to it in colleges as to the other subjects.) For B.A. and B.Sc. subjects at least $\frac{4\times250}{50}$ or 20 teachers and for the intermediate subjects $\frac{5\times350}{50}$ or 35 teachers will be required. (There will actually be required far more than these numbers for the students taking optional subjects will not arrange themselves conveniently in multiples of 50.) To attract the class of man who is capable of teaching effectively in a college, salaries averaging not less than Rs. 300 a month must be offered and the principal's salary must average not less than Rs. 600 a month. There will, therefore, be a salary bill of

not less than Rs. [(55 × 300) + 600] or Rs. 17,100. The remaining items of expense (*e.g.*, rent, or interest on capital, repair of buildings, pay of clerks, librarian, menials, upkeep of laboratories and library) are not likely to total less than Rs. 2,000 a month. We may, therefore, state the minimum monthly cost of such an institution as Rs. 19,000. If there are no endowments or grants-in-aid and if all students pay full fees the fees would have to be fixed at upwards of Rs. 30 a month. It would, however, be more in consonance with the needs of the country if the fees were fixed at Rs. 40 a month and were paid by 500 students, the remaining 100 students, who would be carefully selected as being poor and of exceptional ability, paying no fees.

I do not think I have set up an unreasonable standard of efficiency, but I fear the standard of expense is prohibitive. It might be possible, by the aid of well-disposed Indians of the better classes, to get 150 of the students who matriculate each year to join such a college, but the number of such students bears a very small proportion to the number desiring a university education and the problem is not to be solved by the establishment of a number of such colleges. The maximum fee that the average student can pay is probably about Rs. 10 and this leaves two-thirds of the cost of his education to be found in some other way.

(*b*) I have no direct experience of laboratories but in Government colleges at any rate, the teachers in science get practically all they ask for and I have not found them unduly modest in their demands. College libraries are, as a rule, not as good as would be expected in institutions of equal size and standing in England, but they are probably good enough. Teachers and students can generally obtain the books which they desire to consult.

(*c*) I am not quite sure that I understand what is meant by this part of the question. If it is meant that whatever examinations are prescribed should be so conducted as to test the general acquaintance of the candidates with their subjects, and not be elicit information on minute points, and that a wide choice of questions should be given to the candidates; so that within a broad curriculum teachers and students may have an opportunity of pursuing investigation in directions in which their aptitudes or inclinations lead them, and are not pursued throughout by a haunting dread lest they shall fail " to cover the ground. " I am strongly of opinion that the condition is an ideal to be aimed at in all universities. But I very much doubt whether the majority, either of teachers or of examinations under the Calcutta University, is at present fit for a great degree of freedom. Certainly in the pass classes for some years to come teachers will require detailed curricula to work by or chaos will result. The B.A. and B.Sc. honours and M.A. and M.Sc. teachers and students might well be allowed greater freedom than they at present enjoy.

(*d*) In my opinion, teachers have already as much leisure as they can profitably employ and when a teacher undertakes definite research work the authorities of his college rarely fail to accommodate him by a rearrangement of the time-table.

VACHASPATI, SITI KANTHA.

(*a*), (*b*), (*c*) and (*d*) I am fully agreeable to the view that university training at its best involves what are stated.

I also consider that the ideal is neither attained, nor attainable, under the existing system in Bengal. But, to make it feasible, I should say in respect of (*a*) and (*b*) that the poverty of the people and want of sufficient funds should be taken fully into consideration so that education may not be too costly for the people and, consequently, may not be beyond their reach. The *Pardah* system prevailing in this country prevents teachers, who usually reside with their families, from occupying the same mess or hostel as the students.

VICTORIA, Sister MARY—VIDYABHUSAN, RAJENDRANATH.

VICTORIA, Sister MARY.

(*a*), (*b*), (*c*) and (*d*) I share the view of the functions of a university which is here set down.

I find it difficult to apply them for the following reasons :—

(*a*) Lecturers of first-rate ability are difficult to procure because the circumstances are not sufficiently attractive.

(i) The educational work which presents itself is so elementary; students are so ill-prepared that the work is that of teaching the elements of English, rather than giving a course in some one particular subject. This does not attract the women who wish for higher educational work. The woman of first rate ability and recognised standing wants a different sphere of work; she wishes to deal with students, *not* with girls whose intellectual capacities are so immature. The missionary will take up the work for she has a different ideal, but not the educationist.

(ii) The educationist might take it up if the salaries were sufficient. Could we offer better salaries and some system of future advancement and of pension we could get better women. The majority of women are willing to come out for a period of three years, but not to stay on in the work.

It must be remembered that women's colleges can never be self-dependent. The majority of Indian women in a college are those who are not rich, who will take up educational work for at least a period of their lives. This is as it should be for the colleges for women should supply teachers for Indian schools. Wherever this is the case it is only reasonable that Government grants should be such as to enable the college to maintain a sufficient and well-paid staff. At the same time, one would deprecate extravagance and the ideal of a very highly paid principal and a very poorly paid staff.

(*b*) There are no well-appointed libraries and laboratories in Calcutta to which there is free access.

(*c*) I strongly hold that there should be a large degree of freedom of teaching. Still I hold that the conditions of India are so different from those of England that it is expedient to adapt ourselves to those conditions.

I should like to apply general principles throughout, but until our students are better trained in school I cannot do so. The choice of text-books should be left to teachers, otherwise text-books are treated as set books by the student. As regards study we have to remember that the student's ideal is not yet the acquirement of knowledge for the sake of knowledge, but for the sake of passing the examination. As that, at present, can be done by the learning of questions and answers from cram-books it is still advisable that too much freedom of study should not be accorded to the student,

(*d*) It is certainly advisable, in certain cases, that teachers should have sufficient leisure to pursue independent investigation. This would be more possible if we could diminish the number of lectures given to students. At present, a large amount of lecture time has to be spent in explaining text-books, terms, and elementary facts. We are hampered by the bad grounding in the school.

The rules and regulations governing lectures in men's colleges should not be applied *verbatim* to women's colleges. The conditions are so different. In women's colleges, except for English, students studying any particular subject are very few in number; we have, in some cases, three students only studying one subject, and it is in rare cases that there are more than fifteen.

VIDYABHUSAN, RAJENDRANATH.

(*a*), (*b*) and (*c*) Yes.

I do not think that the ideal is attainable under the present system as, at present, the connection between a professor and his students is purely formal, not at all

VIDYABHUSAN, RAJENDRANATH—*contd.*—VIDYABHUSANA, Mahamahopadhyaya Dr. SATISCHANDRA—VREDENBURG, E. (in consultation with Cotter, G. de P.)—WAHEED, Shams-ul-Ulama ABU NASR—WALKER, Dr. GILBERT T.

intimate and personal; the number of students is unmanageably large; facilities for joint work in libraries and laboratories are very limited; freedom of teaching and study is restricted; teachers have not sufficient spare time to devote to independent investigation.

VIDYABHUSANA, Mahamahopadhyaya Dr. SATISCHANDRA.

(*a*), (*b*), (*c*) and (*d*) Yes.

I do not think that the ideal is attainable under the present system as at present, the connection between a professor and his students is purely formal, not at all intimate and personal; the number of students is unmanageably large; facilities for joint work in libraries and laboratories are very limited; freedom of teaching and study is restricted; and teachers have not sufficient spare time to devote to independent investigation.

VREDENBURG, E. (in consultation with Cotter, G. de P.)

(*a*), (*b*), (*c*) and (*d*) I entirely share the view expressed.

I am not in a position to tell how far the proposed ideal is attained, or attainable, under existing conditions.

WAHEED, Shams-ul-Ulama ABU NASR.

(*a*), (*b*), (*c*) and (*d*) Yes. I do hold that university training at its best involves these four conditions.

Under the existing system in Bengal the ideal is not certainly attained, nor is it attainable except in a very limited degree. Under the present type of examining university, with a large number of colleges scattered over the country, it is not financially possible:—

(*a*) To provide every college with teachers of first-rate ability in every subject. This is only possible if universities of a teaching and a residential type can be started in two or more suitable centres, which only can make for economy, bring about a concentration of energies and culture, create an academic atmosphere, and ensure an effective personal guidance in and out of the lecture-rooms and seminars.

(*b*) Similarly, it is not possible to provide everywhere well-appointed libraries and laboratories to which teachers and students (the latter under proper guidance) should have access.

(*c*) Likewise, when, as above stated, teachers of first-rate ability and well-appointed libraries and laboratories, and consequent concentration of culture are not possible everywhere, it would not be safe to allow a large degree of freedom of teaching and of study.

(*d*) Again, sufficient leisure to teachers to pursue independent investigations means the employment of more teachers of first-rate ability than contemplated in (*a*), which is still more impossible financially. Without a concentration of culture and intellectual effort, combined with necessary equipment, no atmosphere favourable to research and originality in thought can be created.

WALKER, Dr. GILBERT T.

(*a*), (*b*), (*c*) and (*d*) Yes.

I do not think the ideal is attained in Bengal. The state of things that I found when examining some ten years ago appeared lamentable. The men, even M.A.'s,

had nothing like the grip of their subjects that really good first or second-year under-graduates have at Cambridge; and they showed hardly any capacity of working out the simplest problems. Where a good Cambridge second-year under-graduate would get 50 per cent, and a first-rate one 75 per cent, on a Cambridge paper of 10 or 11 questions in three hours the best Bengali M.A. that I saw would, I believe, on the same paper get 35 per cent. Here I exclude the Prem Chand Roy Chand candidates.

I recognise that in Cambridge the standard of working out problems is higher than in many other universities, in Germany for instance. But in Germany students have a grip of principles with which that in Calcutta is not comparable for a moment.

I do, however, consider that the ideal would be attainable in Bengal, provided that the right staff were appointed and healthy conditions of life were established.

WATHEN, G. A.

(*a*), (*b*), (*c*) and (*d*) I accept in theory the outlines of a university's function as given but I think too much emphasis is laid on the academic side, and the civic functions entirely omitted. The object of the Punjab University, or at any rate of the colleges, is to turn out good administrators, and not scholars; but men who can be trusted with responsibility can guide popular aspirations and purify the public services.

I do not think that these objects will be attained merely by teachers, even of first-rate ability, by libraries and laboratories, by freedom of teaching, and by giving teachers leisure for research. What is required is to create an atmosphere at once healthy and inevitable and, for this purpose, many men soaked in Western traditions and intense believers in Western civics will succeed better than academic scholars however learned. I admit that the ideal functions of a university in the West are largely academic. But, here again, Oxford and Cambridge are greater on account of their Asquiths and their Balfours, than for their Munros and Verralls. In any case, the ideal indicated cannot be attained in the Punjab without an enormous expenditure of public money in increasing the number of professors, in strengthening libraries and laboratories, and in increasing the proportion of teachers to taught. In the present state of India I think public money should be spent on more urgent educational needs. Primary schools for lack of good teachers do in five years what they ought to do in three. Good secondary schools hardly exist. And universities are, in consequence, to make bricks without straw. The way of university reform lies through the schools. Double the pay of your teacher. Give him security of tenure, abolish the system of running schools by tuft-hunting committees and you may begin to create matriculates for whom university teaching of the kind indicated may be an advantage. Even so teachers of first-rate ability would be hard to find in India; and there is room for immense expansion in buildings and grounds.

WATKINS, Rev. Dr. C. H.

(*a*), (*b*), (*c*) and (*d*) There is no doubt that university training "at its best" involves all these things, but I cannot yet judge how far they should be insisted upon in Bengal—especially in any sudden way.

(*a*) The number of such teachers is limited; as regards all, *finance* is a serious consideration.

(*d*) Is specially important because there is a strong tendency to launch out upon all subjects of study at a point too far down the stream; in particular, to deal with copies more than originals, products more than sources, and commentaries more than texts. This is accentuated by the fact that students are strong in memory and addicted to abject memorising. It is obvious that a serious shortage of leisure must drive many of the teachers themselves in these same directions.

WEBB, The Hon'ble Mr. C. M.—WHITEHEAD, Right Rev. H.—WILLIAMS, Rev. GARFIELD.

WEBB, The Hon'ble Mr. C. M.

(*a*), (*b*), (*c*) and (*d*) I consider that the four propositions comprised in this question are, each and all, essential to university training at its best.

As I have no personal experience of Bengal and the Calcutta University I cannot say whether the ideal therein set forth is attained, or attainable, under the existing system in Bengal.

WHITEHEAD; Right Rev. H.

(*a*), (*b*), (*c*) and (*d*) I would say *yes* to all four questions.

But I do not think that it is possible to attain this ideal under the existing system. It demands much smaller classes, fewer lectures, and a system of teaching adapted to the abler students, and not to the large mass of the students that now swamp the college classes.

WILLIAMS, Rev. GARFIELD.

(*a*) and (*b*) Yes.

(*c*) I should prefer to substitute "considerable" for "large degree." I believe that in England and America the pendulum has swung too far in the direction of freedom on the part of the student. The value of a rigid set discipline in studies is underestimated to-day. It produced wonderful scholarship in the past. The freedom of the student should, in my opinion, be considerable, but only within a very clearly defined area outside of which he is not allowed to roam in the early years of college life.

(*d*) Yes.

This ideal does not begin to be attained, nor is it in my opinion, conceivably attainable, under the existing system in Bengal.

To the present type of student which is admitted in such large numbers to the Calcutta University this ideal system cannot fairly be applied. For these students are university students only in name, and it would be sheer waste of money, time, and brain to foist them upon a man of any academic ability. The present type of student would break the heart of a really scholarly professor. Their numbers, in any case, would make the ideal impossible of attainment. They do not know how to use a library, and most of them never will. Freedom of study is as foolish for them as it is for a boy in the "remove" form of an English public school, and teachers, unless they were multiplied a hundredfold, could not possibly find leisure for independent investigation. The conclusion is, then, that this ideal cannot fairly be applied to *the present type* of university student. In the opinion of the writer the first reform necessary is to *produce a type of student to which this ideal can fairly be applied.* Until this type of student has been produced, and this ideal for this education applied, what is given in the Calcutta University must be a pure travesty of university education and life.

It would be expected that such resources as exist in other great centres of population and are there used to promote the establishment of universities would also exist in Calcutta and should there be used for a similar purpose. It is true that in Calcutta, as in all cities of similar size, there are "practised to a far greater extent than in rural areas those professions and callings for which the intellectual training given by a university has always been needed." This quotation is from Part II of the final report of the Royal Commission on university Education in London, which goes on to speak of another factor creating a demand for university education in cities, *viz.*:—the "development of new occupations which

WILLIAMS, Rev. GARFIELD—*contd.*

require a highly trained intelligence." It is implied that it is in the great cities that such development proceeds and it is there that the demand for highly trained men is, therefore, created; and it notes that this whole demand is dependent upon "the manufacturing or commercial activities of the nation" which naturally centre in the great cities. It would be difficult to overestimate this factor in the cities of the West where the newer universities have been brought into being. It is very easy to overestimate its importance in the cities of India. For, in India, in the first place, such manufacturing and commercial activities as exist are rarely those of the Indian nation; they are almost always those of Western nations, and their success depends largely on Western initiative, Western capital, and Western control. They are not as yet in any measure part and parcel of the Indian nation, they do not colour the thought of the Indian people, and it hardly ever occurs to an Indian parent or student that the reason for the acquisition of a highly trained intelligence is to enable the individual to play his part more adequately in the manufacturing and commercial activities of his nation. In the second place, that a man of "highly trained intelligence" should take his part in manufacturing and commercial activities is a conception more foreign to the Indian mind than to that of any other type with which I am acquainted. One recalls that in pre-revolutionary France the old-fashioned rules and regulations which, for instance, "forbade a man to change over from one trade to another without a long and costly legal process" were felt by the people to be in need of reform. Here, in India, in the twentieth century, a social system built up upon a religious foundation has such a hold over the people that, for the vast mass of them, it will never even occur to them that they should, for the sake of greater prosperity change their traditional occupation. But, as the London University Commissioners realised, it is just these manufacturing and commercial activities which necessarily and rightly affect the location of a great university in a great centre of industry. The factory *preceded* the University and the technical institute of university status. The demand for highly trained men created the supply of such men, and suggested the place where this supply should be concentrated. I wish to emphasise this point as strongly as I can. The economic factor is potent at every point in our discussion of the problems of Indian university reform. It may easily be seen how relatively insignificant in importance the effect of manufacturing and commercial activities in India is by a study of the number of "highly trained men" in Calcutta who actually do go into commerce and manufacture. I suggest that, for all practical purposes, this reason for placing a university in Calcutta is, at present, of no importance whatever. Its future importance, moreover, depends largely upon a complete breakdown, of the caste system, and he will be an optimistic man who expects to see this sufficiently accomplished to be, to any large extent, operative in the near future. That wealth is centred in Calcutta in such a way as to be utilised for the financing of university education in the metropolis is, of course, indisputable, but I find it hard to believe that this wealth can only be applied to institutions situated in the city of Calcutta.

The chief reason for locating a university in a place like Calcutta is that the brain of the province is concentrated there. Just that ability which one needs in the "court" or "council" which administers a university on its business side would be difficult to find, to anything like the same extent, elsewhere in Bengal. But need the members of such a "court" or "council" necessarily reside on the spot? In connection with this point, Calcutta may be said to have one other possession of inestimable worth to give to a modern Indian university, and that is its *knowledge of English*. An Indian student hears more English spoken in Calcutta than in any other Indian city except Madras. This is of the greatest benefit to a student who is prosecuting his studies through the medium of the English language.

When one comes to speak of the organisation of these resources to meet the needs of the University one is faced with a condition of affairs extraordinarily different from that of similar cities in the West. If the Commission will pardon the colloquialism Calcutta is "in the pockets" of the various denizens of the Calcutta High Court. (The doctors also have their say, though they have not as dangerous and predominant a control as they had in my time in he London University.) The great business men, commercial magnates, jute millionaires, etc., are not Indians and, so far from being in any way organised to help

the University, they would, in their inmost hearts, prefer to bury it. They recognise the utter inefficiency of the University and the uselessness to them of the type it now turns out. But their desire is not to make a new university, but simply to break the old one. The dominance of the University by the lawyer has done more than anything else to injure it, but next to this is the refusal of the commercial men to exercise any serious influence at all.

The only hope of better organisation of resources that I can see lies in a radical reconstruction of the University. The administrative genius and great financial resources of the business men of Calcutta will never be organised to assist in the development of a type of University such as exists in Calcutta to-day. By them it has been tried and found wanting. "Once bitten, twice shy."

Note.—I am not clear whether in answering this question one is expected to discuss the University's resources in the matter of buildings. This point will be raised again under question 21, so I do not deal with it here.

WORDSWORTH, The Hon'ble Mr. W. C.

(*a*) Yes; if "recognised standing" is interpreted liberally.

(*b*), (*c*) and (*d*) Yes.

This ideal is not attained in Bengal. It is not attainable except through a considerable modification of prevailing opinion as to standards of accommodation, functions of examinations, and purposes of education. This implies also much greater expenditure on buildings, equipment, and staff which, in the general absence of endowments, will not be easily provided.

ZACHARIAH, K.

I agree with the view expressed, but believe it to be unattainable under the present system.

(*a*) The facts that each college has to be self-sufficient for lecturing purposes and that the college staff does not, as a rule, participate in M. A. teaching mean that the colleges cannot easily secure or keep the best men for teachers. Further, the large size of colleges rules out tutorials of any recognised species. The lot of "post-graduate" students is rather more tolerable; but the ordinary B. A. and I. A. student can seldom listen to a first-rate lecturer. As for *personal* guidance the question is one of simple division; and, the dividend being too large, no attempt is made to divide and there is no quotient at all.

(*b*) Good libraries and laboratories are, of course, of the first importance; but there are few Calcutta colleges which can boast either. I believe that there is a certain college with a laboratory not much larger than a railway compartment. This certainly confines the effects of a chance explosion within narrow limits, but is otherwise not ideal. With regard to libraries it may be pointed out that their effective value depends upon whether students use them; and this cannot be taken for granted. When the bazar cram-book guarantees infallible success it seems to many students a waste of effort to go farther afield. I have noticed that students who copy down every word of the notes dictated very often omit any references that might be given! It is the lecturer's duty to read all the books and work up the information he gathers into a convenient form so as to save the student all trouble—this seems to be a fairly common theory.

ZACHARIAH, K.—*contd.*

(c) Greater freedom and less rigidity would be very desirable, but I do not think it can come along the line of allowing individual colleges and teachers to set their own standards or examine their own students. This may be ideal, but *corruptio optimi pessima*; and in Calcutta it would only aggravate existing evils. Some possible means of deliverance are suggested in the answer to question 9. I should like to emphasise the emancipating effect in this direction of a three years' honours course in place of the present B. A. and M. A.

(d) Most of the teachers—always excepting the "post-graduate" lecturers—have neither the leisure for, nor the stimulus to, independent investigation. Nor, to my mind, can any radical change be effected unless there is co-operation between the colleges for lectures and unless more college teachers are given a share of M. A. work; or, to put it in another way, unless all M. A. teachers belong to the staffs of the different colleges. [See my answer to question 1.]

QUESTION 3.

What resources exist in Calcutta for the formation of a great centre of learning such as other cities of comparable size possess? How far are these resources organised to serve this purpose? What changes, if any, and what expansions would you suggest?

ANSWERS.

ABDURRAHMAN, Dr.

Calcutta possesses all the advantages of a university town in India. The university is indeed happy in its location and environment. A university is not a class-room with a professor and students. It is not even a library or a laboratory. A modern university connotes these, and academies, scientific and literary societies, museums, galleries, and other collections, with all of which it enters into formal relationship.

The Art Museum of Calcutta is rich in possessing rare antiquities and relics of the Hindu and Buddhist periods. Every Indian feels, in it, drawn nearer to the classical ages. The Indian world of all antecedent periods meets there in sympathy.

If the Art Museum places us *en rapport* with our fellows of the Vedic and Buddhistic times the Victoria Memorial collection brings us into touch with what is modern and living and produces that healthy reaction which is so essential for future national revival. The calm of ancient India is here contrasted with the struggle for pre-eminence and impresses the mind with the idea that neither a return to the old, nor an imitation of the new, but a harmonic blend of both, will affect the complete realisation of Indian life.

Ruskin says:—"To enter a room in the Louvre is an education by itself." This equally applies to the museums and collections of Calcutta. But the Calcutta University has, so far, failed to enter into such relationship with these institutions as is essential for the instruction of its students. Museum collections can reach the students in two ways; either the exhibits should be taken to the class-room or the students taken to the collections. Provision should be made for both. Again, as is done in some continental countries, all museums, galleries, etc., should be converted into university class-rooms on an appointed day in the week when the public should be disallowed to enter and the teachers should bring their arts and history classes to them, where they will find well-arranged material for illustrating their lectures. This applies with greater force to the zoological, botanical, and other science classes. The value of specimens in such studies has, in America and elsewhere, led to the creation of a new office, that of the Museum Instructor, who meets the teachers and students and shows them the collections and instructs them in such subjects as may be desired. He is the connecting link between the university and the museum. Special rooms are provided for visitors from the university, where lectures can be held.

Again, enough emphasis cannot be laid on the importance of botanical gardens as educational institutions. They are essential for any botanical research worth the name. The Botanical Gardens of Calcutta, as in Edinburgh or in Japan, should be brought under the control of the University and should be appropriated more to scientific, than useful or ornamental, gardening. A special attempt should also be made to grow Indian (*Vedic* and *Unani*) medicinal herbs, and the gardens should be utilised to enrich the indigenous materia medica.

The libraries of Calcutta are also famous. It is not only a collection of time, but of much systematic effort, and though many great treasures of Indian knowledge have been lost to our country by the criminal neglect of our people there is yet enough saved.

Carlyle says that a university is a collection of books. If education is reflected in college libraries it is not too much to ask Government to place the Imperial and Asiatic Society Libraries at the disposal of the University and make them the home of university research. The German Government has virtually handed over the *Königlische Biblothek* to the authorities of the University of Berlin. No less than one thousand students are found there at research work at any hour a visitor may like to enter the library.

The post-graduate research carried on by the teachers and students of the Calcutta University should, likewise, be housed in the Imperial and the Royal Asiatic Society Libraries. It will be an omission if I were to forget to mention here the Imperial Record Office publications. Calcutta has also many societies for the promotion of learning and diffusion of knowledge, which go to make it a city of culture.

The Medical College, Calcutta, the Engineering College at Sibpur, have attained by no means an ordinary fame.

The various colleges of the University, such as the Presidency, St. Xavier's, Ripon, and others, with their glorious traditions and a string of reputed past and present professors, make the name of Calcutta renowned. The Calcutta Madrassah established by Warren Hastings, is the only institution in the country that can develop into a great research institution of Arabic learning and Islamic studies. The laboratories of the Presidency and St. Xavier's have attained a high stage of efficiency and the addition of Sir J. C. Bose's Research Institute will make Calcutta the leader of all Indian towns in the study of science. Professor Bose has set the highest standard of professorial eminence and Indians, as is shown by the endowments of the great jurist Dr. Rash Behary Ghose and Sir Tarak Nath Palit, have shown that they recognise the importance of experimental science as the means of enlarging the boundaries of truth.

But these are not the only resources which make Calcutta great as a centre of learning. Calcutta is the birthplace of all the new intellectual movements in the country. It has till very recently been the capital of India and is rich in all that the West has given to the East. Here England and India stand face to face, and the movements have melted and fused. But with all this Calcutta, like Bombay, has not lost its individuality. There is no passion here to mimic and ape the life of an alien people. The Bengali is no less original than the Russian. The genius of Bankim Chandra or Tagore stands as aloof from Europe as that of Tolstoy or Dostoievsky. In Bengal Hindu genius has rediscovered Indian art, and the National school unlike the Government schools of art in India, does not aim at producing weak copies of European art, but works with the inspirations of the Buddhist-Hindu, Greco-Gandhara, Mani-Bahzad, Moghul, and Rajput schools. New worlds are being revealed every day in the realms of all the fine arts. A school of Indian nationalists is rewriting the books of sociological and national interest, and reinterpretation is throwing fresh light on a great number of problems misunderstood by Europeans.

In Bengal, as in Italy, is witnessed to-day a revival of learning due to a higher patriotism. Calcutta is the life-centre of this renaissance. The ultimate reconciliation of Indian and European ideals in education, which should fit the new generation to make use of modern civilisation and to enter upon its own inheritance, demands that the University should be centralised in Calcutta.

ALI, The Hon'ble Mr. ALTAF.

I do not think there is any special reason why Calcutta should be selected for the centralisation of university learning.

I think some place within easy reach of Calcutta should be selected and the University removed there. This place should be built up to suit the requirements of the University. Calcutta is not at all a suitable place for students. The various attractions and diversions that exist in big cities are very detrimental to the student community.

ALI, SAIYAD MUHSIN.

The following resources exist in Calcutta for the formation of a great centre of learning :—

(*a*) A large population within a small area consisting of men of different walks of life for most of whom education is a real necessity.

(*b*) Facilities of communication.
(*c*) Numerous educational institutions.

At present these resources are not properly organised.

Though Calcutta has the aforesaid advantages it is not proper that a big city like this should be made a centre of learning. A place in the suburbs of Calcutta, say at a distance of five miles, would be more suitable for the location of a university like this. Calcutta may, however, retain a university whose chief functions would be to affiliate mofussil colleges and schools and to conduct and to control their examinations.

The establishment of a residential university in the neighbourhood of Calcutta will not involve much additional cost as the sale-proceeds of the buildings in Calcutta will be more than sufficient for the construction of such buildings on the proposed site. At least the site will be available at almost nominal cost.

ALI, NAWAB NASIRUL MAMALEK MIRZA SHUJAAT, Khan Bahadur.

Calcutta has far better resources in this direction than any other Indian city, with all its colleges, museums, libraries, laboratories, factories, technical and medical colleges, educational societies, such as the Asiatic, and other literary societies. It has all the requisites of becoming a centre of education, both native and foreign, and besides the health of the city is far better than other places in Bengal. Calcutta should, therefore, be made the centre of all future efforts for enlarging the scope of educational work in this presidency.

ANNANDALE, Dr. N.

The resources available for the formation of a great centre of learning in Calcutta may be considered under the following headings:—

(*a*) Teaching
(*b*) Libraries.
(*c*) Laboratories.
(*d*) Scientific and literary societies.

(*a*) *Teaching.*

I shall confine my remarks under this heading to the teaching of zoology. Zoology is taught in the medical colleges of the Calcutta University, but only, so far as I am aware to medical students. The history of the teaching of it is interesting. Until about 1906 it was taught to preliminary medical students only in the Calcutta Medical College and the professorship of zoology was practically attached to the post of superintendent of the Indian Museum. The superintendent gave a limited number of lectures, with no practical work and with only such demonstrations in the museum galleries, which are situated a long way from the college, as he might be willing to give on his own initiative The system was satisfactory to no one and in 1907 came to an end. The professor of pathology in the college was instructed to lecture on botany and zoology, in addition to his ordinary duties, and, at the same time, to conduct practical classes. Naturally enough, he lectured on zoology out of an English text-book, and when the time for dissecting the earthworm came he was astonished to discover that all the earthworms in Calcutta were apparently pathological, having the wrong number of kidneys, in the wrong place, and so on. It needed a reference to his predecessor to teach him that Indian earthworms do not belong to the same family as those described in English text-books. Subsequently, an officer of the Indian Medical Service was appointed as whole-time professor of biology (*i.e.*, botany and zoology) and has been succeeded in the post by other members of the same service. All these professors have been trained zoologists engaged in zoological research and the system has worked, so far as I have been able to discover, admirably in so far as the training of medical students is concerned. Only medical students, however, have been accepted at the classes. Teaching on similar lines has

ANNANDALE, Dr. N.—*contd.*

recently been instituted at the Belgachia Medical College. Students desirous of taking their B.Sc. or higher degrees in zoology frequently apply to the officers of the Zoological Survey of India for coaching and ask permission to use our laboratories, etc., for the purpose. At one time, I permitted one of the officers of the department, who had been an assistant professor in an English university, to help a limited number of students in this way. His aid was given gratuitously and any trifling expense incurred was met by our department. I had, however, to put a stop to this system because I found that practically the whole time of the officer in question was occupied by it, to the exclusion of his proper work. He tells me, moreover, that the students were quite unfit when they came to the Indian Museum, in which the laboratories of the Zoological Survey are situated, to undertake the simplest observations or to make the most elementary use of literature.

I understand that a university professor of zoology will shortly be appointed in Calcutta and that his duties will be mainly to encourage and promote post-graduate work. At present, there is no means whereby a student can proceed to an ordinary degree in the subject. The Calcutta University is the only Indian university in which this is the case.

(*b*) *Libraries.*

Scientific libraries are very unevenly distributed among the sciences in Calcutta. So far as actual research is concerned botanists, geologists, and zoologists are probably as well off in this respect as in any other city of similar size in the world. Two English, one Scotch, and one Irish university are represented on the staff of the Zoological Survey and I have myself made use of the scientific libraries of three English, two Scotch, and two Japanese university towns. I do not hesitate to say that Calcutta, with the libraries of the Zoological Survey, the Geological Survey, and the Asiatic Society of Bengal, is very much better off for zoological literature than any of these, and my colleagues bear me out so far as their experience goes. On the other hand, the literature of certain branches of science has been much neglected in Calcutta. The only one of these of which I have any personal knowledge is anthropology, and in this science the libraries are poor, especially on the somatological side, in which the medical libraries might be expected to excel. I understand that certain other sciences (*e.g.*, physics) are at least as badly off in this respect. Any respectable person who receives permission from the director can read in the library of the Zoological Survey of India and I do not consider any change necessary so far as zoological research libraries are concerned.

(*c*) *Laboratories.*

In respect to laboratories, again, there is a very unequal distribution, but it seems probable on the whole that the laboratories of the different colleges and scientific institutions are more equal to what is required for the promotion of learning than any other kind of resource. Any student engaged in real zoological research who is recommended by a professor or other responsible person is granted permission to use the laboratories of the Zoological Survey. As a matter of fact the privilege is seldom applied for by Calcutta men, though we have, as a rule, several Indian investigators from the colleges of North-Western India working with us in the long vacation. If any large number of investigators were to work in the laboratories they would have to be enlarged and the scientific staff of the Zoological Survey increased. In zoological research the Zoological section of the Indian Museum (now the Zoological Survey of India) has done the work that would be done in a British university town by the university.

(*d*) *Scientific and Literary Societies.*

Scientific and literary societies are important agents in encouraging the promotion of learning in European cities. In Calcutta perhaps they do not play the part that might be expected of them. We are fortunate in possessing one of the oldest societies of the kind in the Asiatic Society of Bengal, which was founded as long ago as 1784, and probably this society is, in some respects, in as flourishing a condition now as it has been at any period of its history. Various facts, however, interfere with its utility as an agent for promoting learning except among the well-to-do. The subscription is necessarily

high (*i.e.*, high in comparison with Indian incomes) for expensive buildings have to be kept up, a comprehensive library maintained, and costly publications issued. The associate membership conferred on investigators of small means, who do not pay any subscription, cannot be unduly enlarged. There are several other societies of more limited scope in Calcutta, but most of them either appeal only to a small body of specialists, or else adopt a somewhat uncritical attitude towards the work of their members. For a comprehensive scientific or literary society to flourish it is necessary, from a financial point of view, that it should include a large number of members who are not themselves specialists. This condition exists in the Asiatic Society of Bengal, but it is to be regretted that a large proportion of the ordinary members pay their subscriptions rather as a matter of duty, than because they take any real interest in the activities of the society.

In these circumstances, it is difficult to start any large schemes for the encouragement of learning in private societies. The Government of India and the Government of Bengal give generous grants to the Asiatic Society of Bengal for the very important work of editing texts in Indian languages and the like, and this work has recently been reorganised in such a way as to make it more valuable than heretofore, but there is always a danger, when a private society receives a large proportion of its income as donations from Government, that it will become a mere official bureau of information. As a member of the society I am strongly opposed to its becoming an official agency, which would inevitably have a deadening effect and render independent action still more difficu't. It depends largely on the societies themselves how far they can bring influence to bear on Government.

AZIZ, Maulvi ABDUL.

Calcutta has the advantage of getting a very large number of pupils for obvious reasons, but the pupils mostly are not under proper control. Capital and labour are also available more than elsewhere.

A residential university with the existing colleges of Calcutta, a first grade Islamia College, some residential Islamic high English schools, with proper libraries in such and also a second-grade Islamia College, with mosques attached to them, should be established in Calcutta.

The expansion may be made gradually as funds are available, but an Islamia College is urgently needed in Calcutta as at Dacca. The Muhammadan high English school in Calcutta and at Dacca may be converted into residential high English schools, and facilities may be given to this community to start more schools on this line.

BANERJEA, J. R.

The resources of the University:—

(*a*) Its constituent colleges in Calcutta.
(*b*) The Indian Association for the Cultivation of Science.
(*c*) The *Sahitya Parishad.*
(*d*) The Asiatic Society.
(*e*) The Imperial Library.
(*f*) The Museum.
(*g*) The Botanical Gardens.

The resources of the University and its constituent colleges in Calcutta are organised for the purpose of post-graduate teaching. The Indian Association for the Cultivation of Science is affiliated in botany only up to the B. Sc. standard, but it has physical and chemical laboratories in addition to the botanical. The *Sahitya Parishad* has lecturers some of whom are men of real distinction. For higher university work—for research—the two libraries mentioned above—that of the Asiatic Society and the Imperial Library—and the Museum and the Botanical Gardens ought to be easily and more

frequently accessible to university students and the laboratories of the Indian Association for the Cultivation of Science and the library of the *Sahitya Parishad* ought to find a place in a scheme for the formation of a great centre of learning in Calcutta. The lecturers in the *Sahitya Parishad* ought to be lecturers to university students. If the colleges in Calcutta had larger staff and more brilliant men the expansion of the University into a body that could undertake the teaching of the B. A. and B. Sc. honours courses in addition to M. A. and M. Sc. teaching would be possible. Further, more could be done in the direction of research. But the college funds being limited, unless the University or the Calcutta colleges receive endowments from wealthy citizens, the expansion of the University on the lines just indicated is impossible.

BANERJEA, Dr. PRAMATHANATH.

The intellectual resources of Calcutta do not compare unfavourably with those of other cities of a similar size; but in point of financial and other resources it is very far behind them. At present, neither the intellectual nor the material resources are properly organised. There are many eminent men connected with the Calcutta colleges as also in the legal and medical professions and in the various services who have now no share in the work of the University, but whose co-operation would be very valuable for building up a great centre of learning. Such men may be invited to deliver lectures in their own special subjects, and their help may be sought in supervising the work of students out of college and, generally, in imparting a healthy tone to their activities. The University may also bring together the intellectuals by assisting in the formation of learned societies, such as an economic society, an historical society, etc. There are a few libraries and laboratories in Calcutta, but they are scattered units; and it is very desirable to co-ordinate them on the basis of mutual help and support. The University ought to seek the co-operation of institutes like the Asiatic Society of Bengal, the Indian Museum, the Bose Research Institute, and the Botanical and Zoological Gardens. The financial resources of Calcutta, though poor in comparison with those of some of the other large cities, are not altogether negligible. It is a pity, however, that wealthy men do not, as a rule, take much interest in the University. In recent years, the Calcutta University has secured a few large donations, but, in order that it may be a really efficient body, it must arouse the interest and enlist the sympathy and financial support of the wealthy public to a much larger extent than it has hitherto succeeded in doing.

BANERJEE, GAURANGANATH.

I think that there are ample resources in or about Calcutta, both material and intellectual, which being organised, marshalled, and utilised properly, would undoubtedly promote the growth and development of a great centre of learning; but I am afraid that, at present, these resources are not properly organised and utilised for the benefit of its alumni. For instance, the Zoological Gardens at Alipur, the Botanical Gardens at Sibpur, the Indian Museum, the different banks and business establishments, the huge mills and factories on the banks of the Hughly, the corporate institutions, *e.g.*, the Calcutta Municipal Corporation, the Oriental Gas Company, etc., are great educative institutions by themselves, but the Calcutta University does not properly, or in some cases only imperfectly, utilise their services for the benefit of its students.

I suggest that there should be established in Calcutta a central institution where the post-graduate teachers attached to the University, the professors of the various local colleges, and other distinguished scholars not actually engaged in teaching may meet, discuss, and exchange their views freely and where different sections in arts and sciences may be started under the directorship of the most eminent persons in the different branches of learning. Under its auspices periodic excursions for the study of zoology, botany, geology, archæology, etc., could be arranged and undertaken, and the researches and investigations of the various scholars could be published periodically in its journal, to be entitled "Transactions and Proceeding of the Calcutta University."

BANERJEE, Sir GOOROO DASS.

The resources that exist in and near Calcutta for the formation of a great centre of learning are:—

(*a*) The Asiatic Society of Bengal,
(*b*) The *Bangiya Sahitya Parishad*,
(*c*) The *Sahitya Sabha*,
(*d*) The Indian Association for the Cultivation of Science,
(*e*) The Sir Tarak Nath Palit Science College,
(*f*) Sir Jagadis Chandra Bose's Research Institute,
(*g*) The Presidency College,
(*h*) The Scottish Churches College,
(*i*) The Vidyasagar College,
(*j*) The City College,
(*k*) The Ripon College,
(*l*) The Calcutta University Institute,
(*m*) The Young Men's Christian Association,
(*n*) The Imperial Library,
(*o*) The Imperial Museum, and
(*p*) The Zoological Gardens,
(*q*) and in relation to professional learning:—
(*r*) The High Court,
(*s*) The Bar Association,
(*t*) The Vakils' Association,
(*u*) The Calcutta Medical College, with its hospitals, and
(*v*) The Belgachia Medical College.

Some of these institutions are connected with the University, and some more may be expected to be connected with or to co-operate with it. Though Calcutta has ceased to be the political capital it still continues to be the intellectual capital of India.

BANERJEE, JAYGOPAL.

For all practical purposes Calcutta with her Imperial Library; the Asiatic Society, the libraries and laboratories of Government colleges (like the Presidency College or the Sanskrit College), the nucleus of a University Library, the Sir T. Palit Science College and its laboratory, the Medical College and its museum, the recently established Sir J. C. Bose's Research Institute, the Calcutta Museum, the Zoological Gardens, the Sibpur Engineering College, the Botanical Gardens, the Calcutta Mathematical Society, not to speak of the numerous less-known organised bodies such as the *Sahitya Parishad*, the University Institute, the Chaitanya Library, the Y. M. C. A., and the Brahmo Samaj Students' organisations may fairly claim to possess the needful resources which, if properly co-ordinated and expanded or modified in certain directions to make them specially suited to the needs of the student community and the large body of teachers, will fulfil the object contemplated in this question.

Better co-operation and co-ordination among all these institutions are urgently needed. There ought to exist also a central university library affording ample opportunities of study at all convenient hours throughout the year to teachers and students alike and first-class reading-rooms, with necessary up-to date conveniences, should be attached to it and furnished with costly high-class periodicals, magazines, and, what is more important, valuable "Transactions" of the various scientific and literary learned societies of Europe and America. This central library should also serve as a "loan library."

An inter-collegiate "loan" system ought to be organised so that the different college libraries of the city may cease to be viewed and used as the exclusive property of the individual institutions alone. This change is necessary also for fostering more successfully a corporate intellectual and academic life and for the creation of a healthier atmos-

phere of mutual fellowship and co-operation towards a common end to undo the evil effects of the present tendency towards an unwholesome rivalry and competition among the colleges which must have an insalutary effect on university life and education.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

A teaching university may be developed in the town of Calcutta with the Palit and Ghosh trusts, the Indian Association for the Cultivation of Science, Dr. Bose's Laboratory, and the income from the post-graduate classes and the existing colleges there, with other faculties, such as commerce and technology, added. The rich people of Calcutta, I hope, would contribute liberally to it. The present resources would not go far; this should be supplemented by liberal aid, both public and private. There is at present no proper organisation for co-ordinating the resources of the colleges and other institutions in Calcutta, which may lead to economy and efficiency. Each constituent college should be adequately represented on the administrative and advisory bodies of the University.

BANERJEE, MURALY DHAR.

There are public libraries, societies for the cultivation of different branches of knowledge, such as the Science Association, Dr. Bose's Research Laboratory, the Botanical and Zoological Gardens, museums, arts and science colleges, medical colleges, the Tropical School of Medicine, hospitals, the Engineering College, libraries and laboratories, etc., attached to these colleges, various kinds of workshops, and factories, mechanical, electrical, chemical, shipbuilding and engineering works and big firms, above all, veteran educationists, scholars, experts in all professions which make Calcutta the second city of the British Empire. All these resources may be so organised as to make it, at a moderate cost, the greatest centre of learning in India, if not in the British Empire. There should be greater centralisation, greater specialisation of work, and new technical, agricultural, and commercial colleges.

BANERJEE, SASI SEKHAR.

The facilities which Calcutta possesses for being a great centre of learning are of no mean order. The essentials round which a great university should grow are "good libraries and laboratories, collaboration between professors and students, and an atmosphere created by the systematic working of many minds on independent branches of research", a fairly healthy climate, a good museum, and botanical and zoological gardens. Calcutta possesses all these advantages. Amongst others I may mention here the following:—

(*a*) The Imperial and the University Libraries.
(*b*) The libraries of the Presidency and other colleges and the *Sahitya Parishad* Library.
(*c*) The University College of Science laboratory, and the laboratories of the Presidency, Sibpur, and other colleges.
(*d*) The Research Institute of Sir J. C. Bose.
(*e*) The Indian Association for the Cultivation of Science.
(*f*) The Calcutta Museum.
(*g*) The Sibpur Botanical Gardens.
(*h*) The Zoological Gardens.
(*i*) The Calcutta University Institute.
(*j*) The Asiatic Society of Bengal and other learned societies.

Besides the above Calcutta is the centre of commerce, trade, and industry and has institutions such as the Bengal Chemical and Pharmaceutical Works. These are the advantages that Calcutta possesses.

BANARJEE, SASI SEKHAR—*contd.*—BANERJEE, SUDHANSUKUMAR—BANERJEE, UPENDRA NATH.

Many of the institutions named above, such as the University Library, etc., are not open to the general body of students. To develop a corporate university life the inter-collegiate system must be extended under proper safeguards. I do not know how far the manufacturing institutions are organised so as to be of use to the students of applied science, but the libraries and laboratories and the other available resources may afford some facilities to students engaged in higher studies and original work, on literary and scientific lines.

With regard to the last part of the question I beg to suggest the expansion and development in the direction of technological and commercial studies, and the establishment of properly-equipped workshop and demonstration factories where students can work. It will be highly beneficial to the country if the Government scheme of a technological institution is materialised.

BANERJEE, SUDHANSUKUMAR.

Considerable resources exist in Calcutta for the formation of a great centre of learning. These are mainly :—

(*a*) The Indian Museum,
(*b*) The Botanical Gardens,
(*c*) The Zoological Gardens,
(*d*) The Alipur Observatory,
(*e*) The Imperial Library, and the libraries of the Calcutta University, the Asiatic Society of Bengal, the Presidency College, and the other Calcutta colleges,
(*f*) The laboratories of the University College of Science, the Medical College, the Presidency College, the Sibpur Engineering College, the Indian Association for the Cultivation of Science, and (6) the other Calcutta colleges,
(*g*) The Electric and Gas Supply,
and last, but not least,
(*h*) The teachers of all the Calcutta institutions combined form a body of men which will compare favourably with any other great centre of learning in the world.

These resources are all well-organised to serve this purpose, but require considerable expansion to meet the ever-increasing educational needs of Bengal. Most of the libraries and laboratories require considerable additions. There should be at least two centralised libraries, one in arts and the other in science, entirely maintained by the State, and should be well-furnished with all up-to-date literature and reference volumes.

BANERJEE, UPENDRA NATH.

It is a matter for serious consideration that the claims of deserving teachers and professors are oftentimes overlooked. There may be multifarious reasons for this sad state of things. Is it not, therefore, necessary for the heads of educational institutions to see that special attention is paid to those members of the tutorial staff who have approved modes of teaching, who are experienced, sincerely devoted to their duties, and permanently attached to schools or colleges, irrespective of university degrees. There cannot be the least doubt that if such teachers and professors are unnecessarily and unreasonably superseded by graduates fresh from college, or outsiders having no permanent stake in their concerns, the work of such institutions will suffer. Partiality, favouritism, or recommendation should, on no account, be allowed to play their part in the matter of preference given to those that deserve success. Headmasters and principals must be able to rely safely on their subordinates, place implicit confidence in them, grant them sufficient freedom in their work, not deprive them of their discretion, nor interfere with their work at each step, and thus unnecessarily hamper them in their duties by every means. For, however qualified or experienced a teacher may be, he can never succeed, if he is not allowed to work freely, and knows full well that he is not in the confidence of his superiors.

BANERJEE, UPENDRA NATH—*contd.*—BANERJI, MANMATHANATH—BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN—BANERJI, UMACHARAN.

Teachers must be allowed to make independent investigations in the subjects they have to teach, must see that their students avoid *cram* by all means, that they thoroughly understand the subjects taught, assimilate or digest them, and are really able to utilise and apply them to their best advantage.

BANERJI, MANMATHANATH.

Calcutta unquestionably has been a great centre of learning in Bengal and possesses by far the best resources for the formation of a great centre of learning. Its present position as the seat of Government and the chief centre of trade has attracted people from all parts of the country. Under the post-graduate scheme nearly all subjects have been represented by a large number of university lecturers. Thus, Calcutta possesses greater advantages than any other town in the province for the creation of a centralised seat of high training and, on this account, a smaller amount of expenditure will suffice to raise its level as a centre of learning than what would be required to found such a centre elsewhere on the ground of congestion. The Science College may be extended to make room for the post-graduate teaching of other science subjects. The site near the university buildings (the bazar) which is the property of the University may be built on for the accommodation of lecture-rooms and for the residential quarters of the university lecturers in arts. Besides, a new site in the vicinity may be acquired for the residences of post-graduate students in arts. For the foundation of research institutes of the higher sciences a site is available in Ballygunge and other suburbs. I understand that the University already possesses a building on a big plot of land at Ballygunge, a legacy from the late Sir Tarak Nath Palit. On such a site departments for agriculture and technology may also be opened.

There is the Engineering College at Sibpur which is not far distant from Calcutta, though on the other side of the river. Calcutta possesses two colleges of medicine and a big central law college, besides a large number of colleges in the city affiliated in arts and science. In the city or in the neighbourhood are located the Imperial Library, the Asiatic Society of Bengal, the Museum, the Zoological Gardens, which may very profitably be utilised by university students.

In my opinion, the seat of learning must be in Calcutta and its suburbs. In point of health Calcutta is more fortunate than any other town in the mofussil. Considering the smallness of the number of science students in the post-graduate stage coming from the mofussil the students may be suitably housed in a single building erected in the heart of the city or in one of its suburbs. In short, if a centralised seat is desirable—I think it is—it can be said without hesitation that Calcutta is the best claimant in point of economy, efficiency, and other considerations.

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

I am not in a position fully to answer this question as I have not been in touch with Calcutta and the educational institutions there for many years. I believe, however, that there are resources there for the formation of a large educational centre. There are in Calcutta a number of fairly good colleges which are doing useful work which, with some improvements, may be utilised. The colleges which teach law, medicine, and engineering are of a high order.

BANERJI, UMACHARAN.

The resources that exist in Calcutta for the formation of a great seat of learning are enormous. We have there a splendid galaxy of distinguished and eminent men in various professions, trades, industries, and agricultural pursuits. I do not think that these resources have been duly organised to serve the purpose of the creation of a great

BANERJI, UMACHARAN—*contd.*—BASU, SATYENDRA NATH—Bengal Landholders' Association, Calcutta—Bengal National Chamber of Commerce, Calcutta.

seat of learning There are many well-to-do landlords, merchants, barristers, etc., who have not made any pecuniary contribution either to the University or any local college, Government, aided or unaided. I would advocate the formation of a strong and influential committee for devising means to improve the very limited resources now at the disposal of the University and colleges.

The Asiatic Museum, the Botanical and Zoological Gardens, the Imperial Library, the Victoria Memorial Works, and others of the kind have not yet been adequately turned to account for the benefit of our youths.

BASU, SATYENDRA NATH.

Calcutta possesses abundant resources for the formation of a great centre of learning, only they have to be organised. This is particularly true in regard to science subjects. The vast resources of Calcutta, if properly organised, should greatly facilitate practical training in those subjects.

Bengal Landholders' Association, Calcutta.

We believe that resources exist in abundance in Calcutta for the formation of a great centre of learning, but they need organisation.

Calcutta is the metropolis of India, although not its official capital. It is a centre of our national thought and activities, and of India's trade and commerce. It is capable of affording very valuable assistance to commercial and technological studies. It is the centre of large Government railways and workshops.

It is not far removed from large agricultural areas. It has a large museum, botanical and zoological gardens, at least two large libraries, science laboratories, several large colleges, literary societies of position, a powerful press, and influential social institutions.

It has large medical institutions and very large hospitals. It has the Engineering College, with workshops attached. It has a rich resident population and attracts people of education and position from the rest of India and also from outside India.

It is now the centre of our student population—brought together, no doubt, by untoward and unfortunate circumstances; but they have come to stay and cannot be sent back to the districts.

It is not far removed from large centres of Hindu learning. We strongly advocate the inclusion of commercial, technological, and agricultural studies; and the expansion of the medical institutions, which are altogether inadequate for our needs.

We also advocate facilities for educational and research work in connection with the *Ayurvedic* and *Unani* systems of medicine, including botanical gardens and pharmaceutical laboratories in connection with them. The engineering branch requires development.

Bengal National Chamber of Commerce, Calcutta.

Calcutta has the advantage of several important libraries, well-equipped laboratories, museums, zoological and botanical gardens, but, under the existing arrangement of education, these resources are not being properly utilised. We have in Calcutta eminent teachers in various branches of learning. The present arrangement does not give them ample and free scope for the exercise of their abilities and their services are not utilised to the best advantage.

We think that the control of each branch of study should be placed in the hands of distinct boards of study under different faculties and the members should be chosen with an eye to their efficiency for exercising such control. No member should serve on more than two boards.

The resources mentioned should be made easily available to the students, and the teachers should accompany the students frequently to those places for the purpose of explaining things in a way that would create an enthusiasm in the students for research work.

Bethune College, Calcutta—BHADURI, JOYTIBHUSAN, DEY, B.B., and DUTTA, BIDHU BHUSAN—BHANDARKAR, D. R.—BHATTACHARYA, BRINDABAN C.

Bethune College, Calcutta.

ROY, D. N.

Calcutta possesses brilliant intellects and wealthy men who require better organisation and clever tapping for the realisation of a high ideal of the University. These resources are now imperfectly organised, *e.g.*, in the *Sahitya Parishad* and other learned societies

BHADURI, JYOTIBHUSAN, DEY, B.B., and DUTTA, BIDHU BHUSAN.

Calcutta was, till recently, the seat of the Government of India. The recent transfer of the capital has fortunately, however, left intact at Calcutta all the institutions which are the adjuncts of a civilised Government, public libraries, museums, zoological gardens, the mint and currency offices, commercial and munitions departments, geological, zoological, archæological, botanical, and trigonometrical survey offices, departments for keeping historical records, medical colleges and hospitals, engineering workshops, etc.

Calcutta is also the focus of all public activities of a non-official character, private libraries, learned societies, chambers of commerce, etc. The *elite* of Bengali society, belonging to the leisured class, is also gathered here on account of the malarious condition of neighbouring districts. Hence, civic and academic life have grown side by side to a large extent.

The city, with its suburbs, is a great centre of manufacture as it possesses considerable facilities for railway and river transit.

The University has not fully utilised as yet the resources of Calcutta mentioned above. This desirable end may be secured by the following arrangements:—

(*a*) Representatives of some of the above institutions may be given seats either on the senate or on the boards of studies so that they may be made to take a greater interest in university affairs.

(*b*) Honorary lecturers on highly specialised topics may also be obtained from these non-academic sources, and thus a system of advanced lectures on different subjects may be organised without additional cost.

BHANDARKAR, D. R.

So far as my subject is concerned we have the University Library, the Bengal Asiatic Society's Library, the Imperial Library, and the Indian Museum Library. I discharge a composite function. I am Carmichael Professor of the Calcutta University and Officer-in-charge of the Archæological Section of the Indian Museum. It is, therefore, possible for me to give all facility and help from the Museum to the University students and teachers. But I cannot say the same thing in regard to the libraries. There are many books and manuscripts in the Asiatic Society and the Imperial Library which students may require. It is, therefore, necessary that the Officer-in-charge of the University Library should have the power of securing for them all the materials required from elsewhere.

BHATTACHARYA, BRINDABAN C.

The chief factors for the growth of an intellectual life in a modern Indian city are these:—

(*a*) A great organiser gifted with immense power of ideation and action.

(*b*) A collective body of learned teachers.

(*c*) Financial resources.

It permits of no doubt that Calcutta is possessed of all these requisites in a very considerable measure as compared with any other city throughout India. If, however, any

BHATTACHARYA, BRINDABAN C.—*contd.*—BHATTACHARYYA, HARIDAS.

change be at all desirable it would be to remove the site of the University, and also the residences of its members, to the nearest convenient suburb of Calcutta itself, such as Ballygunje, Bhawanipur, or some such place. Moreover, the great advantage of the Indian Museum, the Zoological Gardens, the Art Gallery, and the Botanical Gardens being situated within the city and its suburbs it is singularly favourable for the successful teaching of geology, mineralogy, archæology, biology, botany, and all those subjects which are distinctly affiliated with those centres of practical education and research.

BHATTACHARYYA, HARIDAS.

The question is vague. If by "resources" are meant intellectual resources then there are available in Calcutta men to teach certain subjects, but not others. It would be difficult to get men to teach certain scientific subjects and the essentials of trade, industry, commerce, agriculture, etc. As certain faculties were not in existence the University could not utilise the services of its own alumni sent out to foreign countries at its own expense or at the expense of Government to study technical subjects so that some of them are now in employments for which foreign education was not absolutely necessary. The recently established post-graduate councils are beginning to organise the intellectual resources of Calcutta.

The material resources in and near Calcutta are :—

(i) Libraries—the Imperial Library, the university and college libraries.
(ii) Museums, art schools, and art galleries.
(iii) Laboratories and chemical works.
(iv) Mills (oil, flour, jute, cotton, paper).
(v) Banks, co-operative credit societies, insurance offices, etc.
(vi) Courts and jails.
(vii) Hospitals and asylums.
(viii) Railways and railway workshops.
(ix) Other workshops.
(x) Forts and munitions factories.
(xi) Mercantile firms.
(xii) Docks and shipping concerns.
(xiii) Government offices.
(xiv) Brick-fields.
(xv) Paddy-fields.
(xvi) Zoological and botanical gardens.
(xvii) Foundries.
(xviii) Tanneries, potteries, hosieries, soap factories, etc.
(xix) The University Press.
(xx) Tea plantations and collieries.

It will be evident from the above that Calcutta has all the possibilities of being a great centre of learning in all its departments. But very little attempt has been made to utilise all these resources.

(*a*) The libraries and museums all lie scattered, and there is no mutual arrangement at present between institutions for the stocking and lending of books, exhibits, etc.
(*b*) Those who can give facilities take no interest, and have no place, in the University.
(*c*) The jealousy and mistrust of interested persons, traders, millowners, bankers, railway companies, etc., towards the educated community render it impossible to utilise some of the existing resources.
(*d*) The absence of certain faculties in the University rendered available resources useless.
(*e*) Political reasons made certain studies impossible and rendered certain other resources unavailable

BHATTACHARYYA, HARIDAS—*contd.*—BHOWAL, GOVINDA CHANDRA.

(*f*) Certain resources again could be utilised only by particular institutions instead of by the University.
(*g*) Certain resources could hardly be utilised for instruction.
(*h*) Certain resources are utilised now by bodies other than the University, and not affiliated to the University.

To organise the available resources I suggest that:—

(*i*) A central university library be established at once and for this Government be advised to make a special grant.
(*j*) Sectional libraries in different subjects be also established, as distinct from the central library, and greater facilities be given to research students in these sectional libraries.
(*k*) A university museum be established for permanent exhibits and exhibits on loan.
(*l*) Professors be given access to all the libraries of Calcutta and the University and the colleges make arrangements for taking out books from the Imperial Library for professors and lecturers, by means of slips duly stamped or sealed, and thus save teachers much inconvenience.
(*m*) The affiliated colleges establish a system of inter-collegiate lending and stocking of books.
(*n*) Students be allowed to gain first-hand knowledge of matters connected with their study. Thus, psychology students may be allowed to visit the Medical College, reformatories, asylums, etc.; law students may be taken round courts and jails and shown the actual process of litigation; economics students may be allowed to visit banks, insurance offices, railways, etc., and have access to the records.
(*o*) Immediate steps be taken by the University direct or by Government to found a technological institute and a commercial institute, and full opportunities be given thereby to young Indians of ability for learning profitable industries, trades, mechanical arts, etc.
(*p*) The great merchant, millowning, and landowning communities be given adequate representation on the senate by a system of election and thus their willing help be secured in helping young Indians to the industrial and commercial professions.
(*q*) Government establish State banks and take over the management of company-owned railways and give the natives of the soil the necessary education and training.
(*r*) The University Press be expanded and undertake the publication of books by reputed authors and thus be a source of profit to the University.

BHOWAL, GOVINDA CHANDRA.

There are human, natural, and moderate pecuniary resources in Calcutta for the formation of a great centre of learning. There are great scholars; and rich and public-spirited gentlemen who are lovers of learning and nobly disposed to create endowments for the encouragement of learning. Already there are numerous munificent endowments existing at the present time. There are private gentlemen of learning and leisure to devote their time to the noble cause of education. Learned men are available there for delivering lectures on different branches of learning. There are the Museum, Zoological and Botanical Gardens helpful to various important branches of knowledge. The Calcutta Public Library and the Sanskrit College Library may be of great help for comparative study of religions and mythologies and for literary, historical, and philosophical researches.

Calcutta is a great seaport. It is a fit place for commercial and naval education and for the learning of shipbuilding.

Calcutta is a terminus of big railways and may serve as a fit place for technical and industrial education. These resources have only been partially organised in the University and the Science College.

BISWAS, CHARU CHANDRA—BOROOAH, JNANADABHIRAM—BOSE, Rai CHUNILAL, Bahadur—BOSE, HARAKANTA.

BISWAS, CHARU CHANDRA.

Calcutta is fairly rich in resources, both in men and institutions, for the formation of a great centre of learning, on the intellectual, on the commercial, and on the industrial side. The existing resources are not, however, organised, nor is there that close co-ordination and co-operation amongst them which alone can yield the best results in the most economical, as well as in the most efficient, way.

I would suggest a freer use being made of institutions like the Museum, the Botanical and the Zoological Gardens; and a co-ordination, if possible, of the existing libraries, laboratories, and workshops, such as the Imperial Library, the library of the Asiatic Society, the laboratory of the Indian Association for the Cultivation of Science, the newly-founded Research Institute of Sir Jagadis Chundra Bose, and the Bengal National Technical Institute. If faculties of commerce and industry be introduced, as they should be, it will be necessary also to utilise the numerous banks, mills, factories, and commercial houses that exist in and about Calcutta, and the sympathetic co-operation of the authorities of these institutions will, accordingly, have to be enlisted.

BOROOAH, JNANADABHIRAM.

As the colleges exist in Calcutta—I am speaking from the topographical point of view—it will not be possible to have a centre directly under the guidance of the University. The colleges should be located near each other and the University buildings should be within a short distance from them. The neighbourhood of College Square will be an ideal place, though this arrangement will cost some money. All the important colleges and schools are there, including the Medical College. That area should be directly under the control of the University, but as numerous private houses will have to be acquired it cannot be achieved without an expenditure of a very large sum of money. The removal of the colleges to the suburbs will cause endless inconvenience to students and guardians—otherwise, that would have been the best course.

BOSE, Rai CHUNILAL, Bahadur.

These are the resources existing in Calcutta—the Indian Association for the Cultivation of Science, the Bose Institute, the Science College of the Calcutta University, the Asiatic Society of Bengal, the Imperial Library, the Darbhanga Library, the Indian Museum, the Royal Botanical Gardens at Sibpur, the Zoological Gardens, the many hospitals and workshops in and around Calcutta, and the *Bangiya Sahitya Parishad*. These institutions would form a good nucleus to make Calcutta a great centre of teaching.

There should be facilities for teachers to take their students to some of the above places for study in the different subjects according to their requirements.

BOSE, HARAKANTA.

The Imperial Library, the Asiatic Society's Library, the Museum, the Meteorological Observatory, the Zoological Gardens at Alipur, the Botanical Gardens at Sibpur, the Indian Association for the Cultivation of Science, Sir J. C. Bose's Research Institute, and the libraries and laboratories attached to the University and its affiliated colleges (in arts, science, medicine, engineering, and law) may, if properly developed and organised, help to form a great centre of learning in Calcutta. With the kind permission of the authorities concerned these institutions may be made more accessible to the advanced students.

BOSE, Sir J. C.—BROWN, ARTHUR—CHAKRAVARTI, BRAJALAL—CHAKRAVARTI, Rai MONMOHAN, Bahadur.

BOSE, Sir J. C.

Such resources exist in Calcutta, among which may be mentioned the Research Institute which I have founded. This institute is intended not only to advance science, but also to foster intellectual curiosity among students. Progress of knowledge is impossible without a fresh outlook and the awakening of a keen love of nature. The present system of examination in vogue at the Calcutta University deadens this faculty. The services of an institute like the one mentioned may be of considerable importance to the University in advancing learning provided the free and spontaneous growth of the institute is not marred by external interference. With such safeguards the co-operation of my institute will be at the disposal of the University. In connection with this I would urge the importance of giving colleges and institutions affiliated to the University full liberty for individual development. Some of the important colleges have done much in the past to advance higher education, each in a particular branch of knowledge. Each has thus established a tradition of the highest value. The University can, by the fullest recognition of the services rendered by each, secure their active co-operation for building up the great university of the future. Unfortunately, certain new regulations, hastily carried, in spite of strong opposition from leading educationists, are likely to deal a serious blow to the harmonious relations which should exist between the University and its affiliated institutions. This new departure places the University in the unfavourable light of a rival to its affiliated institutions. The unfairness of this rivalry is accentuated by the fact that professors from affiliated institutions have been induced to transfer their services to the University by offers of higher pay without consulting the college authorities and thus placing them at a serious disadvantage. The University, it need hardly be urged, should be raised above such a compromising position by the discontinuance and disavowal of this policy.

BROWN, ARTHUR.

One great defect about the resources of Calcutta is that they are practically not available for mofussil teachers. This would perhaps not matter so much if the more capable of the mofussil teachers moved up to Calcutta but, at present, there is no reason to suppose that the average Calcutta teacher is above the average of one from the mofussil. There is some reason to suppose that he is below. Of course, even if available, Calcutta facilities are deficient. As Calcutta is the premier town of India it should have facilities as regards books approximating to those of the British Museum Library. One of the chief evils attending the multiplication of colleges and universities consists in the dissipating of the little money which is available.

CHAKRAVARTI, BRAJALAL.

Outside the Calcutta University and unconnected with it there are the Imperial Library, the Museum, and the laboratory of the Indian Association for the Cultivation of Science. Much useful work may be done by bringing about some sort of co-operation between the University and these latter.

CHAKRAVARTI, Rai MONMOHAN, Bahadur.

For the formation of a great centre of learning Calcutta has several advantages. The city is, no doubt, of comparatively modern growth and, therefore, lacks the old remains and the historical associations of the great inland cities, *i.e.*, Benares, Agra, Delhi. But it is a 'live' city, growing and expanding, unfettered by old ties, in touch with modern life and its ramifications and interconnections. With its hives of packed

CHAKRAVARTI, RAI MONMOHAN, Bahadur—*contd.*—CHAKRAVARTY, NIRANJAN PRASAD.

population exceeding a millon in day time, with its streams of activities working day and night, with its long powerful roots of railways and steamers tapping huge inland tracts, the city has enormous resources, the possibilities of whose expansion are very wide.

The resources are as yet very imperfectly drawn upon for educational purposes, and it will take much space to point out the means by which they may be organised. For instances, the Europeans traders and merchants take little interest in the University. But if they can be induced to take an active part, their wealth, organisation and specialised knowledge would be of much help to the authorities.

CHAKRAVARTY, NIRANJAN PRASAD.

The resources existing at present in Calcutta, and which may be of great help for the practical training of students of almost all branches of knowledge, are numerous and varied in character and exceed those of all other cities in Bengal and it may be said without any fear of opposition that this is the only place in Bengal fit for the formation of a great centre of learning. Some of these sources of help may be enumerated below:—

(*a*) Well-stocked libraries (The Imperial Library, the Asiatic Society's Library, the Presidency College Library, the University Library, etc.).
(*b*) Well-fitted laboratories (The Science Association Laboratory, the Presidency College Laboratory, the University Science College Laboratory, etc.).
(*c*) Museums.
(*d*) Zoological gardens.
(*e*) Botanical gardens.
(*f*) Banks.
(*g*) Mills.
(*h*) Chemical and pharmaceutical works.
(*i*) Engineering and electrical works.
(*j*) Recognised and standing companies, etc.

The resources are thus great in number and varied in character, but students generally reap very little benefit from them. Facility is not given to students to use these laboratories and libraries at the time of need. There are so many banks, mills, and companies in Calcutta, mostly conducted by Europeans who treat Indians as aliens, and no students of technology, engineering, or commercial science are allowed to receive a course of practical training in them. Students may receive the best theoretical training in colleges, but it will be of very little help to them if they are not allowed to receive any practical training along with it. It may be safely managed, without any injury to bankers and millowners, to arrange for a course of practical training for students who may be employed there as apprentices, following the system of other foreign countries, like Japan, America, and the continental countries. This may be easily performed by placing the charge of these branches of knowledge in the University, which may provide facilities for practical training and researches by sending the theoretically trained students to recognised companies for a limited period as apprentices.

I would like to suggest one thing in connection with this question. There is, at present, no good and proper arrangement in Calcutta for imparting any theoretical and practical training to students of agriculture and commerce. In order to improve the social, economic, and financial conditions of the people arrangements must be made for improvement in the commercial, agricultural, and technological departments. The problem of agriculture is as great as, if not greater than, those of the other branches of applied science and technology. Bengal, though claiming to be a most fertile province, cannot, unfortunately, boast of a single agricultural college. There is only one such college in Bihar which is mainly intended for the servants of Government, and very few outsiders are allowed to take their admission there. A thorough reoganisation is not, however, possible by starting a few agricultural colleges or by establishing a few agricultural departments, but improved and scientific methods must be introduced among the farmers,

who would not change their accustomed methods which had been sufficient for earning a livelihood for themselves and their families until it would be shown to them directly that the scientific methods are, in every respect, better than their antiquated system. This is only possible by training energetic young men in the modern scientific methods of agriculture who, by taking agriculture into their own hands, may point out the superiority to the blind farmers.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

There are learned societies, well-equipped libraries and laboratories, and museums and learned men who are quite prepared to impart education for its own sake. These resources are not organised at present.

CHATTERJEE, The Hon'ble Mr. A. C.

In many respects the city of Calcutta possesses resources which are as good as those available in many educational centres in Europe. The best Indian thought in politics, administration, religious and philosophic speculation, has its source in Calcutta, Bombay, and Madras. Calcutta is also rapidly becoming the centre of a modern Indian culture in art, science, and literature. It has also extensive resources, of which no use is made at present for educational purposes, in its industries, commerce, and shipping. The hospitals have been used for medical teaching, but the law courts have not been utilised for the study of law.

Teachers and students alike stand aloof from the intellectual developments referred to above.

Other existing resources which, so far as I know, are only partially utilised, are :—

(*a*) Museum, for natural sciences, art, and archæology.
(*b*) Botanical collections.
(*c*) Zoological collections.
(*d*) (i) Imperial Library.
(ii) Library of the Asiatic Society of Bengal.
(*e*) Department of Statistics, Government of India.
(*f*) Records in Government departments for study of pure and economic history.
(*g*) Meteorological observatory.
(*h*) Municipal laboratories and the opportunities available in the city for training in sanitary science.

CHATTERJEE, Rai LALITMOHAN, Bahadur.

The resources that exist in Calcutta for the formation of a great centre of learning are :—

(*a*) A large student population.
(*b*) A number of colleges already in working order and a large number of feeder schools.
(*c*) A large number of learned men, not only teachers but men in the other learned professions.
(*d*) A comparatively healthy climate.
(*e*) A few fairly good libraries.
(*f*) Convenience of locomotion which would permit the utilisation of the healthier suburbs for hostels and playing-fields.
(*g*) Facilities for general culture (museum, lectures, clubs, societies, etc.).
(*h*) Facilities for technical education.
(*i*) Means of amusement and recreation.

CHATTERJEE, Rai LALITMOHAN, Bahadur—*contd.*—CHATTERJEE, Rai Bahadur SARAT CHANDRA—CHATTERJEE, SUNITI KUMAR—CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

Moreover, Calcutta is, perhaps, the intellectual centre of India from which ideas radiate. On the other hand, there is little in Calcutta of what Milton calls " the still air of delightful studies". It is too much in the rush of things.

The existing resources of Calcutta, however, are not yet properly organised.

The type of university I suggest for Dacca will also be very suitable for Calcutta. The range of studies may be made wider in Calcutta and a technical, and even a commercial, side may be developed much more easily and effectively.

The Calcutta University should be a self-contained residential university and very carefully organised. If a federal university is also maintained in Bengal it should not be difficult to limit the numbers so that efficient organisation may be possible. The feeder schools should be improved and brought into vital touch with the University.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

Calcutta possesses a great many resources for the formation of a centre of learning. The resources consist of the following :—

(*a*) It is the chief centre of thought in India for movements, political, religious, and social, and also for philosophic speculations, and for the development of literary, scientific and art ideals.

(*b*) It possesses within itself and its neighbourhood large factories, workshops, and dockyards (both State and private), meteorological observatories, museums, libraries, botanical collections and an institute for scientific studies.

(*c*) There are also learned societies like the Asiatic Society, the Astronomical Society, the Mathematical Society, the Economic Association, the *Sahitya Parisad*, and various other similar bodies.

(*d*) It has also extensive resources as a shipping, commercial, and industrial centre.

No attempt has hitherto been made to organise them for the purposes of the University. The hospitals have been used to some extent, but not the law courts.

Teachers and students alike are not in touch with most of these institutions.

CHATTERJEE, SUNITI KUMAR.

As to the resources in other cities of comparable size I do not know much. So far as Calcutta is concerned, resources, intellectual and material, are not wanting to make it a first-rate seat of learning. Calcutta has a fine museum, some good libraries, and some learned societies and associations of high eminence; it possesses fine botanical and zoological gardens, and the Calcutta Medical College, with its numerous hospitals, is said to be the finest and best-conducted in all Asia. It is the centre of Bengali intellectual life; thousands of students from Bengal and Bihar and Orissa flock to its numerous colleges. It is also a great commercial town, and is the seat of the jute industry.

As to the organisation of these resources very little has been done. The University has not as yet availed itself to any extent of these resources: for the matter of that the commercial and industrial side has been lamentably neglected. The activities of the University should be expanded in the direction of commerce and industry, medicine, engineering, agriculture, and art. The available resources in the shape of museums, libraries, hospitals, factories, banks, and commercial houses should be brought into line with the needs of university students, and fullest advantage taken therefrom. A well-appointed central library for professors and students is a desideratum. There is also room for the expansion of the University laboratory to form a national laboratory.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

My belief is that resources exist in abundance in Calcutta for the formation of a great centre of learning, but they need organisation.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH—*contd.*—CHAUDHURI BHUBAN MOHAN—CHAUDHURI, HEM CHANDRA RAY—CHAUDHURI, The Hon'ble Babu, KISHORI MOHAN.

Calcutta is the metropolis of India, although not its official capital. It is the centre of our national thought and activities, and of our trade and commerce.

It is capable of affording very valuable assistance to commercial and technological studies. It is the centre of large Government railways and workshops.

It is not far removed from large agricultural areas.

It has a large museum; botanical and zoological gardens; at least two large libraries; science laboratories; several large colleges; literary societies of position; a powerful Press; and influential social institutions.

It has medical institutions and very large hospitals.

It has an engineering college, with workshops attached.

It has a rich resident population, and attracts people of education and position from the rest of India, and also from outside India.

It is now the centre of our student population—brought together, no doubt, by untoward and unfortunate circumstances—but come to stay and cannot be sent back to the districts. It is a sanatorium compared to the rest of Bengal.

It is not far removed from large centres of Hindu learning.

I strongly advocate the inclusion of commercial, technological, and agricultural studies; and the expansion and multiplication of our medical institutions, which are altogether inadequate for our needs.

I also advocate facilities for educational and research work in connection with the *Ayurvedic* and *Unani* systems of medicine, including botanical gardens and pharmaceutical laboratories in connection with them.

The engineering branch requires development.

CHAUDHURI, BHUBAN MOHAN.

There are in Calcutta materials for the formation of a great centre of learning, *e.g.*, well-furnished libraries and laboratories, museums, and zoological and botanical gardens. What is required is that they should be made up to date and that there should be a class of men who will identify themselves entirely with the cause of education.

CHAUDHURI, HEM CHANDRA RAY.

Calcutta possesses abundant resources for the formation of a great seat of learning. It is the centre of Bengali intellectual life. It has some excellent libraries, laboratories, research societies, schools, madrassahs, colleges, and commercial and industrial institutions. It is the seat of the Indian Museum, the Alipur Zoological Gardens, and the Sibpur Botanical Gardens.

These resources have been partially organised. We have a university embracing the Law College, the Science College, and a department of post-graduate studies. Several educational institutions are affiliated to the University—the Presidency College and the other arts colleges, the medical colleges, the Engineering College, etc.

I suggest the following changes and expansion :—

(*a*) The arts colleges round College Square should be amalgamated with the University.

(*b*) The most important research societies should be affiliated to it.

(*c*) The connection of the University with the Museum, the Zoological and Botanical Gardens, and the important commercial and industrial institutions should be closer.

(*d*) The University should utilise the services of the best among its alumni.

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

The chief requisites for the formation of a great centre of learning are men and money. There are, undoubtedly, some first-class men in Calcutta and also others who with adequate opportunities may become brilliant men capable of doing good work both

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN—*contd.*—CHOUDHURY, Rai YATINDRA NATH—DAS, Rai BHUPATINATH, Bahadur—DAS, Dr. KEDARNATH.

as teachers as well as original investigators. As regards money certainly we have not enough. What we have got should not be frittered away in giving cheap degrees, but carefully husbanded for the purpose of providing opportunities for the highest kind of training. I would abolish the M. A. and M. Sc. classes of the University and also the law classes and hand back the work now done in these classes to the colleges. The University should provide chairs for the various branches of knowledge, to be filled by men of the highest distinction available, who will deliver courses of lectures in their special subjects, open to the students of all the colleges, guide and assist a small number of carefully selected students who, after attaining the M. A. degree, desire to carry on original work, and pursue original investigation in their own subjects. The endowments such as those of Sir Tarak Nath Palit and Sir Rash Behary Ghose, supplemented by such funds as can be spared by the University, should be devoted entirely to the foundation of these chairs and the maintenance of students carrying on their studies under the incumbents of those chairs. The teaching work of the University should be entirely confined to the pursuit of original investigation, instead of to the manufacture of M. A.'s and B. L.'s. The latter work should be done by the colleges alone; the number of colleges being increased from time to time as may be found necessary.

CHOUDHURY, Rai YATINDRA NATH.

The resources that exist in Calcutta are not suitably utilised for the formation of a great centre of learning because our University lacks the motive power and the machinery for stimulating independent and adequate investigation in different walks of study and in matters of Indian interests and problems. By way of illustration we can ask what our universities have done to investigate the problem of Indian history and antiquity? What have they done in order to take up systematically the study of the different schools of Indian philosophy and logic highly admired even by modern European savants? What have they done to study the question of Indian sociology replete with so much universal interest? I can multiply them to show that our universities have miserably failed in their duty towards the scientific study of the culture of India. Early steps should be adopted to take into special consideration what, and how far, our universities ought to do for our students to go deeply into the study of these subjects, so that the reasonable complaints that our University does practically nothing for the resuscitation of our own culture may be wiped off. I would submit, therefore, that our University should seriously take up these questions and provide suitable means and machinery to carry out those studies systematically.

DAS, Rai BHUPATINATH, Bahadur.

The recent arrangements made in Calcutta for post-graduate teaching represent an attempt to organise the resources available in Calcutta. The scheme is new and I am not in a position to suggest any changes so soon. I beg to mention simply that many of the teachers are young graduates fresh from college and without any teaching experience.

DAS, Dr. KEDARNATH.

Speaking especially for medical education, in which I am particularly interested, I should say that enough resources exist in Calcutta for the formation of a great centre of medical learning. But these resources are not fully utilised owing to the fact that teachers have too much to do and are badly paid. I may illustrate my point by saying that the Professor of Surgery in the Medical College, Calcutta, has charge of about 80 patients and performs about 400 important operations a year. Doing his duty towards

his patients it is next to impossible for him to devote his time to clinical teaching of students. Indeed, either the patient or the pupil must be neglected. During two hours he is supposed to see 80 patients, perform one or two operations, and then teach the students. In the great centres of learning in England there are more teachers and, therefore, less work for each of them. I believe in St. Thomas's Hospital, London, which in the numerical strength of beds is comparable to the Medical College Hospital, there are five surgeons, instead of two as in the Medical College. In addition to these there are four assistant surgeons for the Out-Patient Department who take a share in the teaching, instead of one in the Medical College Hospital, Calcutta. The result is evident. It is impossible to expect that standard of teaching, nor can surgeons have leisure to do research work or contribute to medical literature. The duty of the Professor of Surgery should not only be to give relief to patients in hospital, but also to occupy himself with teaching and research. He should first and foremost be a teacher and an investigator although he may, to some extent, practice surgery. His selection to the chair should depend primarily upon his pre-eminence in virtue of his academic standing and scientific repute—it is a pre-eminence among scholars and scientists—and not on his gaining prizes and distinctions while a student or on his working as an assistant or a demonstrator in a certain department. He should be judged by the standard and ideals of the teaching profession.

DAS GUPTA, HEM CHANDRA.

There are splendid resources in Calcutta for the formation of a great centre of learning. Besides the numerous colleges with their teachers, students, laboratories, and libraries there are the following not directly connected with the University :—

(*a*) The library of the Asiatic Society in Bengal.
(*b*) The Imperial Library.
(*c*) The Indian Museum, with its different branches, *e.g.*, geological, zoological, and archaeological.
(*d*) The libraries of the Geological, Zoological, and Archæological Departments of India.
(*e*) The Zoological Gardens at Alipur.
(*f*) The Botanical Gardens at Sibpur.
(*g*) The collection of Bengali manuscripts in the possession of the *Bangiya Shahitya Parishad*, and also its archæological collection.
(*h*) The numerous hospitals and the Medical College hospitals.
(*i*) Officers of the various scientific departments stationed in Calcutta.
(*j*) The Meteorological Observatory at Alipur.

With the exception of the very recently started post-graduate council of teaching there has been hitherto practically no organisation on the part of the University to utilise these resources for the formation of a great centre of learning, though some of the resources are utilised by members of the University by means of their individual efforts. Thus, for example, students of geology have ready access to the geological collections of the Indian Museum and to the library of the Geological Survey of India, while I am given all facilities for pursuing my own studies and investigations in the Geological Survey of India and in the Geological Section of the Indian Museum. I also know of persons who, though not belonging to the Zoological Department, are permitted to carry on their investigations in the Zoological Section of the Indian Museum. My excuse for these personal and other references is that, if serious students are forthcoming, the authorities of the various resources enumerated above will probably help them in every possible way, and, if the University wishes it, with the help of the Government of India, these different resources can be so organised that Calcutta will form a great centre of learning.

As regards the changes and expansions I would suggest the following :—

(i) The different colleges of Calcutta should be removed from the present localities and situated nearer to each other.

DAS GUPTA, HEM CHANDRA—*contd.*—DAS GUPTA, SURENDRANATH.

(ii) Teachers and students should be made to live near the colleges and preferably within the college area.

(iii) Different colleges should be encouraged to develop and grow along special directions.

(iv) The system of inter-collegiate lectures should be encouraged.

(v) The fact that a certain student belongs to a college means that he lives in the hostel or mess attached to the college and is responsible to the principal of that college for discipline and that the principal arranges for his tutorial help; but a student of one college should be quite free to attend the lectures in a subject delivered by the members of another college, even if lectures in that subject are delivered in the college to which he is attached.

(vi) Competent persons who are engaged on other than educational work, and who on account of the peculiar nature of their work, have acquired special knowledge of Indian problems, should be appointed from time to time to deliver courses of lectures on selected topics to the most advanced students of the University.

(vii) Arrangements should be made that the University can borrow books, periodicals, etc., from the different libraries of the metropolis for the use of its members.

(viii) Arrangements should be made with the authorities of hospitals, other than the Medical College Hospital, that the University students may also attend a course of clinical lectures there and attend the patients of those hospitals.

DAS GUPTA, SURENDRANATH.

The advantages of placing universities in great cities have thus been enumerated in connection with the reorganisation of the London University in the London Universities Commission report.

(*a*) The professions and callings for which the intellectual training given by a university has always been needed are practised to a far greater extent in big centres than in rural areas.

(*b*) Many new occupations have developed in cities which require a highly trained intelligence and which would find no scope apart from the manufacturing or commercial activities of the nation. There is, therefore, a demand for well-educated young men and women in the cities, and parents living and working in them come to know of it.

(*c*) In the large cities of England the number of students qualified to undergo a university training, and desirous of having it if it can be provided at a moderate cost, has been relatively large, because the provision for secondary education, imperfect as it has been, is, in many cases, less deficient than in the country districts.

(*d*) In the cities, where wealth is made and distributed and capital accumulated, it has been found easier to collect large funds for the foundation and maintenance of university institutions in the absence of adequate financial support by the State.

(*e*) Many young men and women whose parents could not afford the cost of educating them at Oxford and Cambridge have attended the classes and laboratories of the modern universities and have found in them either the general training or the special professional equipment which they needed for their work in life.

(*f*) Young people of moderate means cannot afford to continue a general education up to the age of 21 or 22 without regard to the nature of their work in life. Modern universities like those of the Middle Ages are, therefore, more obviously schools of preparation for professional life than the Universities of Oxford or Cambridge.

The report then goes on to say :—" It is possible that if the organisation of the secondary schools in England had been more advanced and if there had been as there were in Germany a large number of universities with a settled scope and policy the demand might have been met here as it was in Germany by institutions distinct from the universities. But in England the need for a greater knowledge

of science, both for itself and for its practical applications, preceded in the main the consciousness of the need for the highest instruction in history or philosophy or literature. Speaking generally, it may be said that in nearly every case the development of the modern English universities is the gradual evolution of faculties in institutions originally founded for the pursuit of science or technology. Perhaps it is yet to be proved whether the definite professional outlook of some of the modern English universities is consistent with the wide intellectual training which university education has always been understood to imply. We have no doubt, however, that any branch of knowledge which is sufficiently developed and systematised to be capable of scientific treatment may be taught and studied in such a way as to form part of a university education. The differentia of a university education does not consist in the nature of the particular subjects studied or in their difficulty or abstruseness, but rather in the nature and the aim of the student's work and in the conditions under which they are done ".

In considering the advantages of Calcutta I find that:—

(i) Calcutta is similar to the modern universities so far as (*a*) is concerned.

(ii) As for (*b*) Calcutta has, at present, no such commercial progress as any of the big commercial cities of England. But the minds of the people are being gradually drawn towards it; and the future prosperity of India must depend on her commercial greatness and, if the field is to be prepared for it, Calcutta will hold a very prominent place in this connection and it is, therefore, only proper that some advance should be made in this direction by opening technological institutions to prepare men for their future work.

(iii) So far as (*c*) is concerned Calcutta does not agree, for education will be more costly in Calcutta than in the mofussil. The standard of secondary education being the same all over Bengal there is no special advantage for Calcutta on that score.

(iv) So far as (*d*) is concerned Calcutta is as suitable as any of those centres of England. If proper steps are taken to enlist the sympathy of the rich public of Calcutta there is every chance that funds for the service of the University may be collected more easily there than elsewhere. So far as this advantage is concerned there are also other centres in Bengal as I shall mention below.

(v) In regard (*e*) and (*f*) I find that what Oxford and Cambridge had been to England some time ago, and what Nadia was to Bengal in the fifteenth century, Calcutta occupies precisely the same place in Bengal now. The education is costly there, but so great is the attraction of boys to Calcutta that they are ready to undergo the greatest hardship in order to be able to read in Calcutta. Those who have any hankering for studies are extremely anxious to come to Calcutta. It is, in short, the centre of Bengal culture. But the greatest drawback of Calcutta is that it is more costly than the mofussil centres, particularly on account of the high house rent. But there are so many schools in Calcutta, and so many people who are willing to give their wards a good education, that it may not be difficult to open a university depending on the supply of Calcutta alone. If we take into consideration all these resources of Calcutta, it seems to me quite practicable to have such a big central university in Calcutta which will not only afford an academic training of the highest type, but also open a new branch of technological studies of a specialised nature which may be a source of great strength to the future commercial life of India.

DATTA, A. C.

In my opinion, Calcutta is mainly a business centre and, as such, it can afford good opportunities for the education of the modern type, namely, for the benefit and advancement of the economic interests of society. But, for the purpose of a classical or an ideal type of university education, the distractions of a business centre are not conducive to good results.

DATTA A. C.—*contd.*—DE, SATISCHANDRA—DE, SUSHIL KUMAR.

Calcutta affords a good opportunity for a university. But this university should be the University of Calcutta alone. It should be a university of the modern type and should be intimately connected with commerce and industry and other technical branches which are centred in Calcutta. The interests of these concerns alone can command all the resources of a moderate university for their scientific development.

DE, SATISCHANDRA.

Calcutta, which was for a long time the capital of India and which is now the metropolis of Bengal, has all things necessary for being a great centre of learning, except land, a limited area of which may be acquired when necessary. The best portion of the population of villages has for malaria and economic reasons settled in Calcutta. All the highest offices are situated in it. It is the greatest centre of trade and commerce in Bengal. So men eminent in the various departments of theory and practice are congregated in Calcutta. Hence, Calcutta should continue to be the greatest centre of learning in Bengal. But Calcutta has become congested. Therefore, though Calcutta should always set an example to the mofussil colleges or centres of learning the latter should not even in the matter of post-graduate studies be narrowed or weakened, but should be expanded and strengthened as, otherwise, many poor, but deserving, students will be deprived of the benefits of higher education.

DE, SUSHIL KUMAR.

Resources that exist in Calcutta for the formation of a great centre of learning:—

(*a*) *Libraries.*—Of the big libraries, especially on arts subjects (on science subjects I am not competent to speak), the Imperial Library, the Presidency College Library, *Sahitya Parishad* Library (Bengali), the Library of the Bengal Asiatic Society, and the University Library, deserve special mention. Access to these libraries, however, excepting the Imperial Library which is open to the public, is not, in all cases, free; the Presidency College Library which contains a fine collection of books on literature, philosophy, history, and other subjects can be used only by students and teachers attached to that college, while the *Sahitya Parishad* Library, the Library of the Bengal Asiatic Society, valuable from the point of view of the specialist, are accessible only to members of those institutions. The only library which can be used by registered graduates, fellows, and university students is the University Library, which though it contains some books of rarity and importance in different subjects, is entirely inadequate to meet the legitimate demands of our advanced students and stands in imperative need of further extension. There are a few other libraries of fairly good size attached to individual colleges in Calcutta. Although some of these libraries contain a very good collection of books, and are valuable in many respects, it must be admitted that none of them, not excepting the Imperial Library which contains perhaps the largest and the most valuable collection, is complete, up to date, or thoroughly adequate to meet the increasing demands of progressive scholarship. In many cases, again, the facilities afforded for study are not all that can be desired. In some of these libraries, for instance, no outside loan of books is allowed. Even in the University Library the University students are allowed to consult books in the reading-room, but are not permitted to take them outside. Some of these libraries, again, are unconnected with the University, and no special facilities of study are afforded to university students. In order to remedy these defects and organise these resources I propose that:—

(i) There should be co-operation among these various libraries, and, as none of these libraries can pretend to be complete, the system of inter-library loan should be adopted.

(ii) If the University Library cannot be thrown open to the students a special lending section, suited to their requirements, should be established.

DE, SUSHIL KUMAR—*contd.*—DEY, BARODA PROSAUD—DEY, N. N.

(iii) The University Library should be better equipped and better organised in order that it may be worthy of its name. It should be made, if possible, the nucleus of a central library for the University, to which all the Calcutta colleges should have access, although this does not necessarily imply that individual college libraries should be abolished.

(iv) Some sort of relation should be established between the University and those libraries unconnected with it so that university students and professors may have better facilities for study and research there. This ought to be specially done in the case of the Imperial Library, the Asiatic Society's Library, and the library of the *Sahitya Parishad.*

(*b*) *Laboratories.*—Similar arrangements ought to be made in the case of laboratories but I cannot express any opinion on this subject from practical experience.

(*c*) *Museums.*—In spite of the existence of the Indian Museum and other smaller museums in Calcutta the University should possess a museum of its own. If the University undertakes the teaching of the higher branches of agricultural, technological, and commercial studies, or the study of practical economics, it should have, for that purpose, a museum and laboratory for practical training in these subjects.

For such practical training in technological or commercial studies the University should secure the co-operation not only of firm-owners and manufacturers, but also of the mercantile firms and business houses for which facilities are not wanting in a city like Calcutta.

The Zoological Gardens at Alipur and the Botanical Gardens at Sibpur should also be utilised and the Government should be approached for permission to send students for practical training there.

With all these and other resources, better organised and expanded in the ways suggested, it is quite possible to make Calcutta a great and promising centre of learning. Advantage may also be taken of the activities of literary and scientific bodies like the Asiatic Society of Bengal, the Department of Archæological Survey, *the Sahitya Parishad* and its multifarious branches all over the country, the Buddhist Text Society, *the Boudha Dharmankura Sabha*, the Varendra Research Society, the Mathematical Society, the Astronomical Society, the Philosophical Society, the Chemical Society, the Indian Association for the Cultivation of Science, and other learned societies working in connection with our colleges or otherwise—all of which are doing useful work, each in its own way.

DEY, BARODA PROSAUD.

Calcutta possesses groups of private arts colleges and Government colleges in arts, medicine, and engineering, as also the university post-graduate studies. Then there are Dr. Sircar's Science Association, Sir Tarak Nath Palit's Science College, and Dr. Bose's newly-started Research Institute. All these serve to make Calcutta a great centre of learning. The resources of science are not, however, usefully organised. There should also be expansion in commercial and technological training, which are wholly wanting in Calcutta.

DEY, N. N.

The financial resources of Calcutta are immense as most of the rich people of the presidency live here; the University could easily take advantage of this if only it could have proper organisation.

The Imperial and other libraries, the Museum, the Zoological and the Botanical Gardens, the mills and factories are all good materials to be tapped, but these are not at all organised to serve the purpose of the University. The University, acting in co-operation with Government, should appoint boards to take advantage of all these resources.

The intellectual resources of Calcutta are large, and we must admit that the University has utilised them but partially.

DHAR, SASINDRA CHANDRA.

There are materials for economic and industrial studies such as the jute mills and various other industries. Materials also exist in Calcutta for cultural and anthropological studies such as the University Library, the Asiatic Society's Library, the Imperial Library, the Indian Museum, etc. These are the resources which exist in Calcutta for the formation of a great centre of learning.

As to cultural studies excellent stores in the shape of old books and memoirs exist in many big libraries in Calcutta. These libraries are not co-ordinated. The subscription for membership in some of these libraries is prohibitive and to others ordinary men cannot have any access at all. At least for purposes of research there should be a central body co-ordinating all these libraries, which should levy a small fee from *bonâ fide* research students or from such students as the university professor may recommend, who, in exchange, should have the right to use any book of any other institution. If possible, all these should be centrally located in one building. Research work sometimes suffers for want of such facility.

D'SOUZA, P. G.

The following seem to be the most practical lines of university development in India :—

(*a*) Every city having a population of more than a million inhabitants or which, being the capital of an important province of India, is likely to attract the best intellects in that area should have a university of the unitary type. It should develope a system of university education suited to the needs of that area, and it would, moreover, afford scope for developing research, higher culture, etc.

(*b*) For each compact area outside a presidency town in which the people may be united by the bond of common language, etc., there should be a separate university, preferably of the unitary type.

(*c*) Until such universities are developed the existing organisation may be continued.

DUTT, REBATI RAMAN.

Calcutta has enormous resources in men and in money for the formation of a great centre of learning. The very sight of the university fathers and other great men of Bengal is an inspiration at an impressionable age when hero-worship is instinctive with every soul. There are, again, these excellent organisations, the University Institute, the *Sahitya Parishad*, the Ram Mohan Library, the Chaitanya Library, and the Y. M. C. A., where young students meet the master-minds of the age face to face and listen direct to their appeals. These institutions may be better organised, with the co-operation of the University senators, for courses of lectures on other matters apart from mere text-book education. These lectures may be published in the form of booklets and sold to students through principals of colleges, or they may be published in university magazines. The Ram Mohan Library has already invited eminent men, professors of other universities, to deliver courses of lectures. In money Calcutta possesses unrivalled resources, which have only to be organised and secured. Vast amounts are always being raised for other purposes and it would be a slur on the public spirit of Bengal if our University could not raise funds for its institutions. Let the matter be approached in a businesslike spirit and there will be an overwhelming response from the people. In fact, it did not take Sir Asutosh long to raise funds for the Darbhanga Hall or for the University College of Science. As I have said before let the University Extension Board take co-opted members from different parts of Calcutta and decide upon new colleges to be started and let separate

DUTT, REBATI RAMAN—DUTTA, PROMODE CHANDRA—DUTTA, RABINDRA MOHAN—GEDDES, PATRICK.

local committees be formed with respectable and influential men. In this way I am sure that the Srikrishna *Pathsala*, the Rani Bhabani School, etc., may quickly be raised to the status of colleges and the great Marwari community may be induced to start a college or two. Similarly, funds may be obtained for the existing institutions. The only thing necessary is that public enthusiasm has to be created in their cause. Some of the rich men may be put on the governing bodies to take an active interest in some of the institutions. The American universities create great enthusiasm on their convocation days. It is a great occasion of festivity for the entire town. The *Arya Samaj* anniversary is, similarly, a great festival in Upper India and thousands of rupees are collected every year in aid of several institutions. Let our convocation be a similar life-like thing and let our students go a-begging with the University banner on the convocation day or days and they will fill the University coffers with their coins. Let here be life, let there be joy, and let there be real organisation.

DUTTA, PROMODE CHANDRA.

Calcutta might become a great centre of learning with more efficient organisation of its intellectual resources. The M.A. and M.Sc. teaching has been rightly centralised. The University should provide a central library and a central laboratory (besides its own library and laboratory) for the use of the professors and honours students of the constituent colleges. The Indian Association for the Cultivation of Science which has done more for the scientific education of our country than any other institution should be liberally financed from provincial and municipal revenues. The Calcutta Sanskrit College and School should be improved and turned into a school of research. This college and school enjoy the patronage of the people and, if improved on modern lines, by including courses in Pali, Tibetan, Chinese, French, and German its possibilities would be immense. It is a perpetual shame that Bengalis have not been superior to Europeans in matters of oriental research. It is idle to deny that this was partly due to the *bad teaching* provided in the Sanskrit College. Mahamahopadhyaya Pandit Haraprasad Shastri is almost the only product of the Calcutta Sanskrit School and College who could successfully battle against the travesty of teaching provided there and become a savant in spite of the Sanskrit School and College.

DUTTA, RABINDRA MOHAN.

The resources that exist in Calcutta for the formation of a great centre of learning consist of its different colleges, the four great libraries, and two great laboratories. The colleges are, at present, organised as individual members of the University under the control of the senate so far as the under-graduate teaching is concerned. But the work of post-graduate teaching in arts has now been undertaken by the post-graduate council in arts, which collects together all available men of distinguished merit in Calcutta for the sake of post-graduate teaching in arts. Similarly, the work of post-graduate teaching in science is in the hands of a body called the post-graduate council in science, which is constituted on the same plan as the council for arts. Both these bodies are under the control of the senate of the Calcutta University. But as there is pressing need for the extension of accommodation in the post-graduate classes it is desirable that the undergraduate classes of the Presidency College should be abolished and the library and laboratory, the teaching staff, and the building should be utilised for the purpose of post-graduate teaching.

GEDDES, PATRICK.

As university statesmanship arises, each great city's resources should be far more fully pooled and organised, *e.g.*, the British Museum along with the Teaching University of London. A university proper cannot be contained in any isolated

institution, however diversified and elaborated. It is the city in its cultural aspect. The initial, frequent, and present eminence of Paris is the most conspicuous expression of this. For there, more than elsewhere, the movements of literature and criticism, the great libraries and museums, even the resources of drama, music, and the fine arts are all influences acting along with the " Humanities " of the University. Similarly, the scientific studies come into touch with the learned societies, the Academy of Sciences itself. The student thus has more interest in the life around him, and so he learns in a more real way than is possible in London or in Calcutta, with their prevalent isolation in individualism. So in Leipzig with its world-pre-eminent bookmart, its wealth of music, the student may liberalise his culture from a great city; or again in Münich as a centre of various schools and a many-sided centre of discussion and criticism of life. Similarly as regards smaller university cities; thus I look back to my own periods of study in Jena and Freiburg as peculiarly satisfactory ones. Though in a German university some students waste time, even this apparent waste may be more vital and awakening than the wooden assiduity here too prevalent.

The stock-taking and the fuller utilisation of all the culture resources of Calcutta, by every faculty for its students, say, indeed by the whole University for itself, is thus one of the tasks essential to university renewal. The reaction of this upon libraries and museums, learned societies, and the like, and even upon other institutions and groups not commonly thought of as part of the educative environment of the student—say even the theatre and cinema—would soon be found widely beneficial to city and university together in their mutual intercation. The correlation of a school of medicine with its city's hospitals is but the familiar example of this, and has now to encourage many analogous ones. University extension and summer schools are here setting an example to the universities, and this is increasingly followed by individual teachers. With the present rise of the reconstruction movement, and in preparation for its needed developments after the war, are arising the conception of the college as a " Curcollege," and even of the universities as spiritually uniting into the " University Militant." The new university period, of expansion and change, with greater centres of learning, better organised resources and ideas, which is looked forward to in this question, is thus actively preparing throughout the world.

GHOSA, PRATAPCANDRA.

Calcutta being at one time the metropolis of British India has become a great centre of learning.

What the present resources are and whether they are adequate those at Calcutta are better competent to say.

GHOSE, Sir RASH BEHARY.

There are ample resources in Calcutta for the formation of a great centre of learning, but they are not all organised at present. I would strongly suggest a close co-ordination of the various agencies for the promotion of learning which are now working in isolation from each other. The creation and financing of isolated centres like, say, Sir J. C. Bose's Institute, is, in my opinion, a mistake. The object should be to secure concentration and economy. The different libraries and laboratories in the city, like, say, the Imperial Library, the Library of the Asiatic Society of Bengal, the laboratory of the Indian Association for the Cultivation of Science, and the Bose Institute, should all be linked up with the other educational institutions under the control of the University.

GHOSH, BIMAL CHANDRA.

(*a*) There are able lawyers, prominent medical men, efficient engineers, and leaders of industry whose example and co-operation can be utilised by the University

(*b*) There is ample scope for professional, commercial, and technological work and training.

(*c*) Plenty of accommodation for students can be found and, if the food question can be solved, students would live in Calcutta under comparatively healthy conditions.

(*d*) If the means of communication with the suburbs be still improved, and more colleges started in such areas, the increasing demand for educational facilities can be met.

(*e*) Post-graduate studies and post-graduate work can be centralised most conveniently in an accessible suburb, and thus lead to the expansion of the University.

GHOSH, Dr. JAJNESWAR.

Some of the best scholars in the province live in Calcutta and some of the best-equipped colleges exist there. There is one important library which is open to the public and in almost every part of the city there are respectable collections of books to which the enquirer and the scholar may have easy access. More important than these are the magnificent libraries of the University and the Presidency and Sanskrit Colleges which may be used by all who are in any way connected with these institutions. The University and the Presidency College have been able in recent years to construct and furnish laboratories fitted for investigation and research in various departments of science. There are also well-appointed practical rooms in some of the affiliated colleges, and two laboratories in which advanced work may be done even by those who are prevented by age or circumstances from being regular students of an educational institution. There is a splendid museum in the heart of the city and the Botanical Gardens are within easy reach. A few learned societies are also in evidence, and they have already done valuable work in history, archæology, and ethnology, and have encouraged, to a certain extent, a scientific study of the vernaculars and of the classical languages and literature of India. Calcutta is, moreover, the seat of Government, and the interest and support of high officials (which distance may weaken) form an invaluable asset that the University cannot dispense with, dependent as it must always be on State aid and guidance. Here, too, are practised with the greatest success most of those professions and callings for which university education has always been regarded as a preparation. To those who have attained success and distinction in them the University naturally looks for valuable advice and for pecuniary help to supplement the financial support that it receives from Government. Lastly, Calcutta is a centre of literary activity, and the presence of a large number of authors and savants renders possible co-operation and an interchange of ideas, while their example creates a belief in the value and dignity of intellectual work and an enthusiasm for it. A mediæval isolation has never been aimed at in the modern universities of Europe and America, nor need it be the ideal in Bengal.

But the resources enumerated above are not properly organised to assist advanced work in science and literature. The learned societies should be brought into some sort of relation with the University, post-graduate students, and teachers. At least, they should have every facility for working in the different libraries and laboratories and in the various sections of the museum. The latter, moreover, should be developed in such a way as to facilitate the study of ancient history and sociology and a thorough investigation of the economic and industrial conditions in the province.

At the same time, I would like to see the University removed from its present mean and degrading environment to a convenient site in the neighbourhood of the metropolis, where there will be room enough for expansion and the conditions of a healthy and interesting life will be present. Scholars need, more than others, fresh air and regular physical exercise, as well as peace and tranquillity, which constitute in fact the *sine qua non* of intellectual activity.

GHOSH, JNANCHANDRA—GHOSH, JNANENDRA CHANDRA—GHOSH, Rai Bahadur NISI KANTA—GILCHRIST, R. N.

GHOSH, JNANCHANDRA.

There exist in Calcutta some resources for the formation of a great centre of learning. But, at present, they are not properly utilised. By way of libraries we have the Asiatic Society's Library, the Imperial Library, and Saint Paul's Cathedral Library. By way of scientific collections we have the Indian Museum and the Indian Association for the Cultivation of Science. Institutions like these should be linked up with the University so that advanced students might have facilities for work in one or more of these places.

GHOSH, JNANENDRA CHANDRA.

There are many institutions in the city of Calcutta whose resources may be utilised by the University for the advancement of learning—the Geological, the Zoological, and the Botanical Survey Departments of the Government of India, the Indian Museum, the Botanical Gardens, the Imperial Library, the Asiatic Society of Bengal, the Indian Association for the Cultivation of Science, etc. But, unfortunately, they are not all organised for this common purpose. I would suggest that all original investigators should have free access to all the libraries and laboratories of Calcutta. This will be a great gain from the financial standpoint, as the duplication of costly apparatus and periodicals will, in many cases, be avoided. In this connection, I would suggest the establishment of an institution, like the National Bureau of Standards of Washington, the Imperial Riechsanstalt of Berlin, or the National Physical Laboratory of England. Such an institution ought to be located in the city of Calcutta, and not in the forests of Bangalore.

GHOSH, Rai Bahadur NISI KANTA.

Comparatively speaking, Calcutta has but insufficient resources for the formation of a great seat of learning like that of the Western cities. The number of veteran educationists whose sole aim and aspiration is only the love of learning for its own sake and who are ready to devote their lives for the communication of their knowledge to their pupils is not yet great. How many merited scholars like Mr. Stephen and Mr. B. N. Seal in philosophy, Dr. P. C. Ray in physical science, and Sir Jagadish Chandra Bose in original scientific research, and like the late Mr. Hari Nath De in literature, are available in Calcutta. In my humble opinion, to organise such a system more men of the type would be needed. The present resources that exist in Calcutta, if organised, may go a far way towards it, but will not achieve the highest ideals of the West.

GILCHRIST, R. N.

The chief resources in Calcutta are the University itself, with its library and equipment, the Presidency College, with its library and equipment, the other Calcutta colleges, with their libraries and equipment, and, outside purely educational institutions, the Imperial Library, the Museum, and the Asiatic Society. The resources compared with those of London, New York, or Glasgow are few and insufficient; nevertheless, they provide material enough for research purposes in several branches of learning. The spiritual resources of an academic atmosphere both for teachers and students are very much lacking.

The organisation of these resources depends on the organisation of the University. Outside sources of information or study are open to all alike; but the present organisation of the University does not permit of the full use of the present resources. The reasons for this I have dwelt on elsewhere—the deadening effect of the examination system; the lack of initiative and independence in teachers and students owing to

GILCHRIST, R. N.—*contd.*—GOSWAMI, BHAGABAT KUMAR, Sastri—GOSWAMI, Rai Sahib BIDHUBHUSAN.

this system; the deadweight of Government service as the main aim and object of a student's career. Added to this is a lack of intellectual curiosity among both students and teachers.

For those who are intellectually curious, some arrangement might be made for the inter-collegiate use of libraries. In the Krishnagar College Library, for example, there are some rare books which other libraries do not possess. I understand that arrangements are already under consideration by the Government of India for a freer use of libraries in Government institutions, and this might be extended to all university institutions.

The two chief libraries in Calcutta are those of the Presidency College and the University. The Presidency College Library is superior to that of several of the newer British universities and is perfectly adequate for an Indian university. Its laboratories are the same. In both these respects, therefore, this college is fitted to become the arts college in a unitary university such as I support in a later question. The development of the libraries in other colleges will depend on the place they are to play in the new University. This is also dealt with in a later question.

I hold that, though Calcutta possesses certain facilities outside the University for post-graduate work (in the real sense), there is no reason why other centres should not be developed on university lines. No useful comparison can be made between Calcutta and cities of a similar size in respect to facilities such as this question implies. On the other hand, it may be pointed out that two of the most famous universities in the world, *viz.*, Oxford and Cambridge, do not exist in cities at all. As things are in Bengal, however, Calcutta has the most abundant facilities for outside study; but I question if any centralised university could more reasonably be established in Calcutta on these grounds than, say, in Dacca, or, outside Bengal, in Delhi. Universities must have small beginnings and, personally, I prefer small beginnings in smaller towns than Calcutta to more pretentious beginnings in Calcutta. The academic life of Oxford and Cambridge is reproducible in few places because the newer universities are founded in great cities. The life of these universities is dispersed. The most academic of the Scottish universities is St. Andrews, which exists in practically a village. The University of Adelaide in Australia seemed to me more academic than the universities of Melbourne and Sydney, simply because the identity of the University was more marked in relation to the Government and the municipalities. In America the same truth holds. In Bengal, where an academic atmosphere is extremely difficult to attain, smaller centres are more likely to develop such than large centres. A university in Krishnagar would, in my opinion, be a far more effective institution among the people than a university in Calcutta. I consider, therefore, that though university centralisation of some kind is inevitable in Calcutta for the present, smaller centres should be selected for development, these centres gradually to accumulate the libraries, equipment, staff, and, above all, the spirit of a true university.

In the scheme I give I propose that post-graduate work should, at the outset, be concentrated in Calcutta, *viz.*, work after the B.A. degree of the new standard.

GOSWAMI, BHAGABAT KUMAR, Sastri.

The resources are plentiful. The Imperial Library and other public libraries, the Museum, the Botanical Gardens, and the various industrial and commercial centres in and round the city have not yet contributed their full quota towards the advancement of learning. If the University expands in the direction of agricultural education fields for agricultural work are within easy reach. The University should now undertake to provide facilities for the better utilisation of such resources. Passports for free access to these centres and a regular motor service to facilitate such access are indispensable.

GOSWAMI, Rai Sahib BIDHUBHUSAN.

Calcutta was for a long time the metropolis of India and, by virtue of its situation and political position, it has grown to be a very populous, rich, and thriving city. Among

GOSWAMI, Rai Sahib BIDHUBHUSAN—*contd.*—GUHA, JITES CHANDRA—GUHA, RAJANIKANTA—GUPTA, AMRITA LAL.

its inhabitants can be counted by hundreds noble-hearted and munificent gentlemen who have always taken a keen interest in the dissemination of liberal education in Bengal, who have made princely gifts to the University for the furtherance of the cause of education, and have founded chairs in the University for the promotion of some of the higher branches of study. Besides, there is a large body of highly-educated men of light and leading who can give right direction to any scheme of education conducive to the good of the country. A combination of these circumstances, which is rare in other cities or town of Bengal, greatly favours the formation of a great centre of learning at Calcutta. Of late, attempts have been made to organise these resources by an elaborate scheme of post-graduate teaching, which is capable of still further expansion by the foundation of chairs for deeper study and research work in the several branches of study.

GUHA, JITES CHANDRA.

In order to make Calcutta a centre of learning the conduct of post-graduate studies by the University has been beneficial. The University should requisition, from time to time, the serivces of professors in the mofussil who have acquired distinction in their respective subjects. The students reading in the post-graduate classes of the University should receive instruction from such eminent professors as Mr. Brown of Gauhati, Rai Jogesh Chandra Roy Bahadur of the Ravenshaw College, and Dr. Panchanan Neogi of Rajshahi. Such societies as the Mathematical Society of which Sir Asutosh Mookerjee is the president, the Philosophical Society, and the Economic Society are paving the way towards making Calcutta a great centre of learning. If high-class literary and scientific journals were started by the University they would add a great deal to the usefulness of the University.

I should suggest the abolition of all honours classes in the Calcutta colleges and the teaching of honours by the University only. This would induce a spirit of healthy rivalry amongst students and would enable them to have access to the University Library.

GUHA, RAJANIKANTA.

The resources existing in Calcutta are the following :—

(*a*) The Imperial Library.
(*b*) The Indian Museum.
(*c*) The Zoological Gardens.
(*d*) The Royal Botanical Gardens.
(*e*) The High Court.
(*f*) The factories and mills in and near the city.
(*g*) The Government School of Art.
(*h*) The hospitals.
(*i*) The many social and religious organisations.

These resources are not now properly organised, though some of them are utilised more or less in particular departments of study.

GUPTA, AMRITA LAL.

Resources for the formation of a great centre of learning in the city are not wanting. We have not only a number of reliable societies of educational activity, but great professors of established reputation, as well as promising young scholars, who, with proper training and, in favourable circumstances, may be excellent acquisitions to carry on the advancement of learning. There is no lack of materials, but inducements, encouragement, co-operation, and organisation do not exist.

GUPTA, AMRITA LAL—*contd.*—GUPTA, BIPIN BIHARI—HALDAR, Dr. HIRALAL.

The University should undertake the teaching of honours courses, as has been done in the case of the post-graduate studies. The heads of the educational societies should be approached for help and co-operation so that their libraries and laboratories may be thrown open to the post-graduate and honours students, and men of light and experience connected with such societies may be induced to interest themselves in the work of high education.

GUPTA, BIPIN BIHARI.

We have in Calcutta many schools and colleges with traditions of their own which may be utilised for the creation of a cultural atmosphere. We have big public libraries—the Imperial Library, the Asiatic Society's Library, the *Bangiya Sahitya Parishad* Library, the Chaitanya Library, the Ram Mohon Library, besides the University Library and the various college libraries. There are the University College of Science, the Bengal Technical Institute under the National Council of Education, the Botanical Gardens, the Museum, the Medical College, and other lesser medical institutions—Allopathic, Homœopathic, and Ayurvedic; the Engineering College contiguous to big workshops and factories on either bank of the Hooghly; two law colleges; and a School of Commerce. These resources are not organised and co-ordinated to serve a common end. Bengali lads are not freely admitted to serve as apprentices in any of the neighbouring European workshops; nor are they given facilities to learn mining in the various mines of Bengal. The appalling wastage of raw material among the university youth could have been sensibly reduced, if not prevented, if their energy found vent in these directions.

HALDAR, Dr. HIRALAL.

Calcutta is perhaps the only city in Bengal where anything like an intellectual atmosphere exists. Nowhere outside Calcutta is it possible to bring together so many men of culture and education. The existence of several first-grade colleges here makes it possible for the university to utilise the services of the most eminent teachers in them for the purpose of post-graduate instruction and, in this way, to create a centre of learning. This is the great work which Sir Asutosh Mookerjee has successfully accomplished. Critic after critic has found fault with the University as a mere examining board, but no one has ever done anything, or shown the way to remedy the defect. While others have talked Sir Asutosh Mookerjee has acted. Few have helped him, many have tried to thwart him and to throw as many obstacles as possible in his way; but his genius and iron will have triumphed over all difficulties. To him belongs the credit of having laid the foundations of a great temple of learning. I do not think that Sir Asutosh Mookerjee himself will claim that the present arrangements are in every respect satisfactory. He did all that under the circumstances was possible, and I have no doubt that in the light of experience the scheme will, in future, be modified. I venture to suggest one or two changes which seem to me to be desirable. As a rule, only such men as have acquired some experience of teaching should be appointed post-graduate teachers. It is not always safe to appoint young men fresh from college, however brilliant their academic career may be, especially when teachers are also examiners. At present all post-graduate teachers, men of 25 or 30 years of experience, as well as young men who took their M.A. degree only last year, are indiscriminately designated 'university lecturers'. This is fair neither to the teachers of long standing, nor to the young men. Human nature being what it is it is perhaps not unnatural for the former to feel that they have been somewhat slighted. As for the latter, to what will they look forward in the future if at the very outset of their career they attain all at once the status which their less fortunate elderly colleagues have acquired only after putting in more than a quarter of a century's meritorious service? As regards the system of instruction I am not sure that we have not made it obligatory on students to attend too many lectures. There was a time when M.A. teaching was a thing unknown. Aspirants for the highest degree were

expected to rely on themselves and to study independently. Perhaps this was going to one extreme. But are we not in danger of going to the other? It is not necessary that lectures should cover the whole of the prescribed course, nor do I think that elaborate tutorial arrangements are desirable for M.A. students. They should depend more on themselves than on their teachers and should acquire the habit of independent study. To spend hours in a library is more important than hearing lectures. The lectures should not be mere expositions of recommended text-books, much less dictation of epitomes of them, but should also embody the lecturer's own reflections, conclusions, and research. Only such lectures can be really stimulating. None but men capable of doing work of this kind should be appointed university lecturers.

HALDAR, UMES CHANDRA.

Calcutta has long been the seat of Government. It is the greatest centre of trade and commerce in Bengal and, therefore, men thoroughly conversant with the various departments of theory and practice are to be found here. Though it has ceased to be the Imperial capital its importance remains unimpaired. A large number of colleges and schools of various kinds—laboratories, libraries, the Association for the Cultivation of Science, the University Institute, the Museum, the Zoological and Botanical Gardens and other institutions important from the educational point of view—exists in Calcutta for the formation of a great centre of learning. These resources have been organised to a very small extent. Except mere affiliations and recognition by virtue of which colleges and schools can send up candidates for the university examinations there is no other bond of union characteristic of a true university life. There is no inter-collegiate intercourse. It is worth while for the University to introduce a system of inter-collegiate lectures to be delivered by eminent professors and open to undergraduates and graduates of all colleges. The University Library should be open to the members of all colleges. Facilities for practical work in the laboratories of the University should be afforded to B.Sc. candidates of any college on payment of a nominal fee. All colleges should be under the direct control of the University. The appointment of professors and lecturers should be in the hands of the University. But, as Calcutta has become congested, mofussil colleges should be expanded.

HAMILTON, C. J.

The resurces of Calcutta for the formation of a centre of learning are, no doubt, considerable. Their presence constitutes a strong argument for recognising Calcutta as the natural centre in which the premier university of this part of India should be built up. But before the sufficiency of the existing organisation and the nature of the changes and expansions which may be desirable can be considered, it is necessary to have a clear conception of the nature of the university which should be created and of the work which it should undertake.

The essence of the present system is the existence of a number of separate and independent institutions widely different in character and in purpose, but all preparing bodies of students for the degrees of the University. I will confine myself to the work of the University so far as it relates to the degrees in arts. The course of study in arts is drawn up on the supposition that the great body of students will begin their undergraduate career at the age of 16 and will proceed, after a preparation of four years received in one of the various independent colleges, to the B.A. degree. Here, the University career ends for the great majority of the students. But for those who wish to pursue an advanced study of some one subject a further two years' course leading to the M.A. degree is prescribed. It is only in respect of this latter course that an attempt has been made to organise the teaching resources of certain colleges and of the University itself under unified control. All discussions as to the future development of the University depend upon the views that are taken upon two main questions:—

Firstly, whether the work done in the colleges in preparation for the B.A. degree is properly of a university character.

HAMILTON, C. J.—*contd.*

Secondly, whether it is desirable to leave the colleges in their present condition of independence and self-sufficiency, or whether their resources should be pooled and organised along lines similar to those which have been followed in the case of the work for the M.A. degree.

I will consider some of the points arising out of the first of these questions. I think it will be admitted that the increasing number of candidates that are presenting themselves year by year for the master's degree is evidence of the fact that the bachelor's degree has failed to obtain public confidence. The candidates for the mastership are not primarily those who wish to pursue special study in their selected subject in order to qualify for positions as teachers or researchers in such subjects, but seek the degree as a mark of having attained to a standard of intellectual proficiency such as qualifies them for posts of a general character, for example, in Government service. If this view be correct the bachelor's degree, which should form the normal termination of a university career, is recognised as carrying with it no guarantee that the qualities to be expected of those who successfully passed through a university training are really present.

This leads on to a further question, namely, as to what qualities may reasonably be expected of university graduates. It may be assumed that a university degree is now held to be not only the mark of ability to answer examination questions of a certain degree of difficulty, but the mark attaching to those who have successfully passed through a certain period of training and discipline. Such training implies opportunities of intercourse between a considerable body of students pursuing different subjects of study, an intercourse which is not intellectual merely, but social also. Again, a university training implies intercourse between students and those who are real authorities in their branches of study. If this be so a university training implies much more than the successf l passing of an examination.

When the problem of constructing a properly equipped university for Bengal is raised two points seem to stand out. In the first place, the colleges, or at least some of them, do offer that opportunity for social intercourse between scholars and scholars and between scholars and teachers which has been emphasised as an essential element in a university training. On the other hand, a collection of independent colleges, each with its separate staff and equipment, can never expect to attain either in point of size or in respect of the quality of its staff, libraries and laboratories, etc., to the status of a university. It is thus inevitable that the University should be something more than any one of a number of independent colleges can ever become. But, supposing, as in point of fact is the case, the independent colleges already exist, while the University properly understood is later brought into being, what should become of the colleges? They are in an anomalous position. If the University proper be raised as a kind of superstructure, leaving the colleges as before, there is an inevitable overlapping of function and an undue prolongation of the whole educational course. It would seem that the only solution must be found along one of two lines. With the appearance of a real teaching university the independent colleges, if they cannot be absorbed into the University proper must devote themselves to some different educational sphere. This sphere may either be preparatory to the teaching university, or independent of it. In this second case, they may continue to serve as a *pis aller, i.e.*, they may offer an inferior educational training leading to a degree which, again, may either be the same degree as that for which the University proper prepares, or some subsidiary degree. Thus, supposing a teaching university proper to be fully organised in Calcutta the colleges now preparing students for the intermediate and bachelor's examinations might devote themselves solely to preparing their pupils for entrance to the Calcutta University. On the other hand, two distinct degrees might be recognised. The one given upon the successful completion of a course of training in the University proper, the other given upon the successful passage of an external examination for which preparation is undertaken by the independent colleges.

The following points seem to me crucial in coming to a conclusion relative to these various alternatives:—

(*a*) So long as the greater part of the undergraduate course is spent in the independent colleges it is impossible to give this period of the student's training a true university character.

HAMILTON, C. J.—*contd.*—HARLEY, A. H.

(*b*) If it be regarded as normal that the abler students from the colleges should spend a further period in a teaching university reared as a superstructure above the colleges the educational career of the student after leaving the secondary school stage is unduly prolonged with the result that both time and money are wasted.

(*c*) If a properly equipped teaching university be brought into existence capable of preparing all those who are really fitted to present themselves for the final degree the need for the independent colleges really disappears.

(*d*) Entrance to the University should begin at a stage at which the general, or school, education should be regarded as complete.

(*e*) It is not desirable to multiply degrees unduly nor to grant them except for work which can claim recognition as of a truly university character.

If these positions can be accepted they point to a reconstruction along the following lines :—

(i) In place of a number of independent colleges doing the greater part of the preparatory work for the university degrees the whole of that preparation will be undertaken by one or more fully equipped teaching universities.

(ii) The normal age for entry into the University should be 18 although I would not impose a rigid age-limit.

(*iii*) The University should make provision for two classes of students—the pass and the honours. In each case the course leading to the degree should cover a period of three years. Admission to the honours course should be vested in the hands of the boards of studies and should be made in the main dependent upon the school record and the place taken in the University entrance examination.

The main points raised in this question, as also in question 5, may now be answered. The University can be regarded from two main points of view, namely, as organised for the purpose of teaching and examining, and as organised as a place of residence and social life. From the former point of view what is required is to centralise all teaching in the hands of a competent staff carrying on their work under proper conditions as to class-rooms, laboratories, libraries, and so forth. Without considering the precise changes required to bring about this state of things it is sufficient to emphasise the absolute necessity for a large capital outlay before such conditions are brought into existence. The present colleges, with the possible single exception of the Presidency College, should not be included within the teaching organisation. It is frequently urged that the college influence is of the highest importance. I admit that this may be so and I would leave a very large measure of freedom for the recognition of colleges as residential centres, or centres of social influence. Further, they may be allowed full liberty to undertake supplementary teaching. This, however, will form no part of the normal university course and should not be recognised as in any degree a substitute for the courses of instruction given in the University itself. It follows from what I have said that there is no need to grant to colleges any freedom in the design of their courses or in the conduct of examinations so far as they relate to university degrees. Beyond this they may have complete freedom. Again, it follows that all colleges not incorporated in the University would cease to be bodies whose classes would be recognised as part of the University organisation. If the normal age of admission to the University should become 18 the bulk of the colleges would devote themselves to the work of preparing their pupils for entrance to the University.

HARLEY, A. H.

The Calcutta University ought to have highly developed linguistic, theological, philosophical, and historical faculties. It possesses unique facilities for such in that it is the centre of Sanskrit teaching and a centre of Arabic learning. The Sanskrit *tols* and the Arabic madrassahs have preserved the ancient lore, and books which few European

oriental scholars read are here understood and almost memorised by a large number of students. I consider it regrettable that these *tols* and madrassahs with all they stand for have not been given that measure of consideration to which they are entitled. The Punjab University has been the most progressive in the direction of utilising all the available intellectual ability of its province. It has included the teaching in the madra sahs and *tols* among its own functions. The Dacca Islamic faculty has attempted to organise itself somewhat on these lines.

Other resources available for oriental students are the books of the Imperial Library and the Asiatic Society. The enterprising journal and publications section of the Asiatic Society could provide advanced students with the opportunity of issuing theses and recognised texts.

I am of opinion that, however unfavourable may have been previously the attitude of madrassahs (and perhaps of *tols*) to the University and its Western ideals, the time has come when university recognition would be acceptable, and also that it is deplorable that the traditional learning which is preserved in these institutions, and which students of oriental languages in Europe are at pains to acquire, should be suffered to sink into neglect, and that the want of a degree conferred on such students by the University should deprive them of service and should lessen their public regard. The University could satisfy itself that the courses taught are of equal disciplinary value with the subjects of its arts degrees and then, on condition of the student passing in English up to the B.A. standard within a prescribed period, should confer on him the B.A. degree or M.A. degree according to his qualifications.

HOLME, JAMES W.

I take it that by the words "a great centre of learning" is meant "a centre of learning largely Western in character". If this is so, I am of opinion that the comparison of Calcutta with say, the larger provincial cities of England, than most of which it is more populous, is, to a great extent, not a mistaken one. The English-literate population of Calcutta is out of all proportion less than the population of say, Liverpool or Manchester. On the other hand, its position as the capital of Bengal politically, and of India commercially, draws to Calcutta much of the finer intellect of the province, and makes it a natural centre of its activities. It possesses resources in a certain germinal organisation, in equipment, and in staffing that, if properly directed, might, in time, fulfil many of the ideals indicated in question 2. The organisation I refer to is the Government-directed organisation of the three Government colleges in Calcutta—the Presidency College, the Medical College, and the Civil Engineering College at Sibpur. I leave out for the moment the David Hare Training College as this institution is still in its infancy and is of a rather specialised character. Here is, as it were, a university within a university, subject to one control financially, academically to two. With the exception of a faculty of law these three institutions combined include the faculties generally recognised as the constituent academic factors of a teaching university. As a necessary pendant is the Imperial Library, completely under the same controlling agency, namely, Government. Without exception, the Presidency College is, of all colleges teaching undergraduate students, the best equipped in its library, its laboratories, and its staff. In the other two cases, there is no question of comparison at all. It would seem, therefore, that in these three teaching institutions there already exist the germs of a compact teaching and examining organisation which, with slight modifications, might easily develop into a university fulfilling many of the postulates of question 2. Already, despite its much higher fees, the Presidency College attracts many more students than it can possibly accommodate, which proves that there is a certain demand in Bengal for a type of education different in kind from that generally dispensed. I am inclined to believe that there is room in Bengal both for such a new university and for a university constituted as the present Calcutta University is constituted. I have examined during the last seven years the work of students from the intermediate to the mastership stage and have come to the conclusion that, at present, the Calcutta University fulfils many of the functions of the English secondary school. The

standard of scholastic attainment achieved by, say, the student who passes the intermediate arts examination is a particularly low one if the standard for a pass in other subjects is the same as that in English. But, at the same time, I conceive that there is no reason why the Calcutta University, if its hands were strengthened financially either by private munificence or by Government grants, might not continue to fulfil this function of the English secondary school. The Government university which I have outlined might, however, drop entirely the preliminary training which one of its constituents, the Presidency College, now imparts, and concentrate on the technical, medical, and engineering courses, and upon that work which, at present, is done from the intermediate to the mastership examination stage. Its curricula, its financial organisation, its examinations might conceivably be controlled so as to make a separate and distinct entity working not in rivalry with, but hand in hand with, the educational body around it.

As at present constituted the Calcutta University controls all that general education from matriculation to the intermediate stage which is in essence really of the nature of school work. I believe that if this fact were more universally recognised, and if certain fundamental changes were made in the nature of the training imparted during those two years of the college career, the utility of the University might be greatly enhanced. The controlling machinery of curriculum—defining, inspecting, and examining already exists, but the education imparted in the colleges leads to two ends only—a purely literary, or a purely scientific, educational equipment. In other words, the functional ideal in education is almost entirely ignored. I believe that these two years of training might be made infinitely more valuable if provision were made during that period for instruction in commerce, in the elements of agriculture and the applied sciences, so that the examination at the end of it might be either a further stage in the university career to a mastership, or a definite terminus *ad quem* for those whose aim would be a return to the activities of a non-professional, non-clerical life.

In this way, the Government University I have proposed would not, to any great extent, overlap in its functions the activities of the Calcutta University. In broad outline the scheme would work as follows. After the present matriculation stage, the school leaving stage, a student would come under the Calcutta University control in one or other of the affiliated colleges. Here the parting of the ways, the beginnings of specialisation, would occur. He would take his choice between literature or science or the beginnings of technical equipment. After his examination the student who makes the latter choice would either go out into the world or would proceed to the Government University for higher training in medicine or engineering. The student who makes the first choice would carry on his purely literary, or purely scientific, studies either in the Government University—call it by what name one pleases—or into a college affiliated to the Calcutta University to the B.A. or B.Sc. honours stages. Of those colleges at present under its control some would devote themselves wholly to the remodelled work of the two years from the present matriculation to the present intermediate stages. This would allow of what is really university education being concentrated into a smaller number of well-equipped, well-staffed colleges, thus saving the necessity of the present multiplication of equipment. The present function of the University, that of providing for post-graduate work, would be retained, though I believe that, with the other openings made for different kinds of effort, the present large numbers of post-graduate students would be considerably reduced, with good effect.

HUQ, The Hon'ble Maulvi A. K. FUZLUL.

I believe that in Calcutta itself there are resources for the formation of a great centre of learning very much on the lines of the universities in Europe. There are possibilities of having a university, with the numerous colleges established at various suitable centres in the city, all affiliated to the said university. There are facilities in Calcutta for undertaking works of original research which do not ordinarily exist in other cities. The attractions of Calcutta life are sufficient to induce teachers and professors to join the University more readily than if the centre of learning were situated outside Calcutta. Of course, the advisability of having such a centre of

learning in the city itself is open to question, but it cannot be difficult to select an area in the suburbs where a large number of colleges can be established all federated together to form a university. The other colleges which must necessarily be established in the city itself can also be affiliated to the said university inasmuch as the physical difficulties of supervision of such colleges by the suggested university would not be either too great or insurmountable.

At present, these resources are not organised to serve the purpose of the formation of a great centre of learning in Calcutta.

I would suggest an expansion of educational activities in Calcutta so as to bring about a state of things the absence of which I have indicated in the first part of my answer to this question.

HUQUE, M. AZIZUL.

Calcutta possesses sufficient resources for the formation of a great centre of learning, but these resources are not fully organised. The alumni of the University and of the Calcutta colleges, including the Presidency and the Medical Colleges, have in their midst some of the best men in the world. I would, however, advocate the following changes:—

(*a*) Class lectures of one college or professor should also be open to students of other colleges.

(*b*) The University must provide for post-graduate studies in all subjects.

(*c*) There should be a scheme for a university town as noted below:—

The university town should be bounded on the east by Lower Circular Road, north by Harrison Road, part of Amherst Street and Corrie's Church Lane, including the C. M. S. premises, University College of Science and the Bose Laboratory, south by Bow Bazar Street, west by Halliday Street and its extension. The entire portion of land is to be acquired. This will not disturb the site of the Presidency College, the City College, the Ripon College, the Bangabashi College, the David Hare Training College, the Sanskrit College, the Senate and the University Law College, the Medical College, the University Institute, the C. M. S. College, the new Muhammadan University Hostel, the Dufferin Hospital, the Y. M. C. A., the Industrial Association, or the Calcutta School for Tropical Medicine. There would be two squares—the Amherst Square may be utilised for sports, the College Square may be left as a park. A suitable scheme might be devised providing cheap hostel accommodation and cheap residence for a number of professors, who would also be resident superintendents.

(*d*) Students would be primarily accommodated in hostels provided unless they live with approved and real guardians.

(*e*) Professors may be attached to a particular college their lectures being primarily held for students of the individual college to which they belong, subject to (*a*).

(*f*) All colleges will come within the University and shall become its integral parts. They should feel that they constitute the University.

The scheme will leave the St. Xavier's, the Scottish Churches, and the Metropolitan Colleges outside the University: these colleges may be left to frame their own regulations and, subject to such general control and power of the University as the University may choose to determine on this behalf, shall be entitled to send up their boys for university examinations.

There now remains the Calcutta Madrassah and its hostels. The faculty of Islamic studies, which should also be a part of the University, would be located there and professors and lecturers shall hold their lectures there. It should also be residential. Land would be acquired to make the Madrassah hostels, the present premises of the Madrassah, and the newly acquired land within one plot. Students going in only for Islamic studies would be accommodated there, while Muhammadan students following general courses will have their residence provided within the

HUQUE, M. AZIZUL—*contd.*—Indian Association, Calcutta.

university town. Students within the Madrassah may also come in for study in the university town. The cost of university education ought to be within easy reach of an average middle-class gentleman. University education should not deliberately be made costly to make the demand limited. The University, as well as the whole educational system, forget that students are to go back to scenes where scant regard is paid to the measurement of rooms and other delicacies of modern education; our system forgets, and especially so on matters of arrangement, furniture, building, etc., that this is India where the average earning per head is Rs. 27 per annum; those who come out to this country with English notions of things generally forget that what is cheap education for them is very costly to us where we have hitherto lived on simple and coarse diet just enough to keep body and soul together and have evolved a system which is even now the admiration of humanity.

Each college will be governed by a committee of :—

(i) Representatives of the college staff.
(ii) Representative fellows of the University.
(iii) Representatives of public gentlemen.

Gymnasia and play-grounds must be adequately supplied. Union dinners, museum studies, inter-collegiate sports, debates and other functions, and travelling ought to be a part of university training. Special emphasis should be paid to seminar work, while topics and movements of current interest ought to be discussed in the institutes. Lectures would be held at various hours—morning, daytime, afternoon, evening—with a view to allow each student some amount of time to think of his class lectures.

The University should consist of fellows a proportion of which shall be representatives of the tutorial staff, both of the colleges and of the University. A proportion to be nominated by Government—the rest to be nominated by an electorate or electorates of registered graduates.

The finance of the University would be met from endowments, examination fees, Government grants, and fee collections, while college finance would be met by fees and University grants and individual donations. Fees of all colleges other than the Presidency would be Rs. 6, while in the Presidency it would be Rs. 12.

The initial cost of the scheme would be met by Government aid and the raising of a special tax on the lines of the Calcutta Improvement Trust Tax. Once a policy is announced and a programme drawn up private munificence would also come in. At the same time, cost should be of no moment in any definite and determinate scheme of work. Government will, and should always, find the money if it is honestly convinced of any need, while the people would be a most willing party in meeting the expenditure on any scheme of education which is for the good of this country. The history of Indian budgets—both Provincial as well as Imperial—within the last five years shows that Government can always devise ways and means for any scheme of work which it desires and, as Dr. Sadler rightly says, " Education vitality is the best thing that a nation can buy."

Indian Association, Calcutta.

By resources for the purpose of a University are probably meant :—

(*a*) Money.
(*b*) Libraries.
(*c*) Laboratories.
(*d*) Workshops.
(*e*) Teachers.
(*f*) Organisers.

Calcutta possesses these only to a limited extent at present. But, whatever resources there are, they are imperfectly organised for the highest ends of university education. Their proper and effective organisation would need the joint co-operation of the State, the University, and the leaders of public opinion guiding the philanthropic impulses of the community.

IRFAN, Maulvi MOHAMMAD—IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI—KAR, SITES CHANDRA—KARIM, Maulvi ABDUL—LAHIRI, GOPAL CHANDRA—LAHIRY, RANOJIT CHANDRA.

IRFAN, Maulvi MOHAMMAD.

Calcutta being a large city, and it being the commercial capital of the Presidency, it has an extensive population and students flock there in large numbers owing to its various attractions. In the suburbs of the city extensive land may be available for the establishment of a teaching residential university at much less cost than if it be in the heart of the metropolis. The proceeds of the sale of the existing buildings of the university with lands may be utilised as suitable capital for the maintenance of such a university as I proposed to be started in the suburbs. All the existing colleges of the city may be removed there and incorporated under the new University which will be of a mono-college type as I have already proposed.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

I think that cities like Calcutta and Madras do possess facilities for being formed into great centres of learning. I do not think that such facilities are being properly utilised at present. The various departments of knowledge have not been brought under the control of the universities. The universities at present represent a very small phase of the life of the country. For example, there is no reason why in places like Calcutta, Madras, or Bombay universities like those existing in Leeds or Manchester should not be started. Further, commercial colleges and good technological institutes like those at Leeds or Manchester should be started in this country as feeders to the universities.

KAR, SITES CHANDRA.

The resources for the formation of a great centre of learning in Calcutta, so far as these may be called intellectual, exist. The capacities of our students are beyond doubt, and the professoriate can be recruited largely, though not perhaps entirely, from among the graduates of the Calcutta University. The material resources are certainly small considering the requirements of a modern university in the way of laboratories and libraries. For the better organisation of these resources I would suggest the changes outlined in my answer to question 2.

KARIM, Maulvi ABDUL.

There are in Calcutta good libraries, laboratories, scientific, and other societies for the formation of a great centre of learning, but these resources have not been organised to serve this purpose.

LAHIRI, GOPAL CHANDRA.

In Calcutta there is the Museum and the Zoological Gardens, and the Botanical Gardens at Sibpur. These may be, to some extent, utilised for the study of some branches of science. But they are not sufficiently well-furnished. They need improvement and organisation to be of help. For the study of some other branches of science there is no provision. Well-furnished libraries and laboratories for helping scientific studies need also be added.

LAHIRY, RANOJIT CHANDRA.

Calcutta possesses great resources for learning in its colleges, the Museum, the Botanical and Zoological Gardens, laboratories, libraries, hospitals, workshops, and many other institutions. Almost every person going to Calcutta visits most of these

institutions, but very few even amongst the students appreciate their true significance. This seems mainly due to the fact that these institutions are so scattered as to lose their special importance.

A full directory, with explanatory notes of all these resources, should be kept in the University and in all colleges and hostels so as to be easily accessible to students. They should have full opportunity always of visiting these institutions, and sometimes with competent guides.

LATIF, Syed ABDUL, Khan Bahadur.

Calcutta as the capital of Bengal, and the premier city of India, with its past traditions as the capital of India, and the important institutions like the Asiatic Society of Bengal, the Imperial Library, the Indian Association for the Cultivation of Science, the Bengal Chamber of Commerce, Sir J. C. Bose's Research Institute, and the big mercantile and banking firms possesses resources for the formation of a great centre of learning which many cities of comparable size do not possess. At present, researches are made in some of these institutions by the post-graduate scholars of the Calcutta University, but it must be admitted that all the available resources are not fully utilised. The Calcutta University can organise instruction in commerce and industry, and students following the same should get practical training in the different mercantile and banking firms.

MAHASAI, KUMAR KSHITINDRADEB, Rai.

There are ample resources in Calcutta for the formation of a great centre of learning in all its technical aspects. The presence of a number of well-equipped colleges favours the building up of a teaching university, but it is doubtful how far a residential university is likely to thrive in a big place like Calcutta.

MAHTAB, The Hon'ble Sir BIJAY CHAND.

Calcutta has the advantage of owning the richest libraries and best laboratories in India and it is more fully equipped with up-to-date scientific resources than any other city in India. The Museum, the Zoological and the Botanical Gardens at Sibpur, may be utilized with great advantage for special study in these departments. Besides, as it is a very important centre of trade and a manufacturing city, it is pre-eminently the fittest place in India for practical training in arts, industries, and manufactures. Able and experienced men from all parts of India, and even from all parts of the world, meet here more commonly than in any other city. To be in constant touch with such men is a valuable asset in the acquisition of practical knowledge. Most of these resources are already utilised to a certain extent, but further expansion in this direction is not only possible, but desirable. Students should not only be given every facility to study their special subjects in these institutions, but it should be the part of a teacher's duty to take them to these institutions at fixed intervals and help and encourage them in their special studies. Experts from foreign countries who have made their mark in life should be induced to deliver lectures to students in their special subjects. Colleges for special training in commerce and industry should be opened and the assistance and advice of the most successful manufacturers and tradesmen be secured for the training of students.

MAITRA, AKSHAY KUMAR.

Some resources exist in Calcutta for the formation of a great centre of learning such as other cities of comparable size possess. These are the private and public libraries, museums, the Botanical Gardens, learned societies for the cultivation of science and arts,

MAITRA, AKSHAY KUMAR—*contd.*—MAITRA, GOPAL CHANDRA—MAJUMDAR, RAMESH CHANDRA—MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN—MITRA, KHAGENDRA N.

and the personal example of many distinguished scholars earnestly engaged in research work. Those resources are not at present under any organisation to be of practical help to the University.

MAITRA, GOPAL CHANDRA.

Calcutta by reason of its being the provincial capital and the seat of a High Court and a great centre of commerce possesses resources which no other city on this side of India does. The practical side of many branches of science and technology may profitably be studied in the lawcourts, workshops, hospitals, the Museum, and the Botanical Gardens, that happen to be situated in the city and its suburbs. The students of the Medical College receive their practical training in hospitals, but I do not know if the other resources are properly utilised.

MAJUMDAR, RAMESH CHANDRA.

There are in Calcutta good libraries like the Imperial Library and the Asiatic Society Library, the Botanical Gardens at Sibpur, the Zoological Gardens at Alipur, the Indian Museum, and various banks and commercial concerns. Students of history, economics, geology, botany, zoology, etc., may derive much practical and useful knowledge by a proper utilisation of these. As most of these are Government institutions arrangements should be made for giving the University students special facilities.

MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

Calcutta possesses sufficient resources for the formation of a centre of learning. Almost all the distinguished alumni of the University settle down there in the different walks of life. Whether in arts or science, in law or medicine, Calcutta retains the best products of the University both in public and private life. If these men could be organised into a society the object may be fairly attained. When the Calcutta University Institute was formed I was under the impression that the ideal aimed at was something like the one indicated in this question. But it has practically become an institution of students *in statu pupillari*. The Institute should be thoroughly reorganised and divided into different departments in which competent men who have distinguished themselves in different branches or professions should deliver courses of written lectures, followed by discourses. These lectures, with the sanction of the University, should be printed and also paid for. Graduates engaged in post-graduate studies should also be admitted to the institute.

MITRA, KHAGENDRA N.

Almost all the resources necessary for the formation of a great centre of learning exist in Calcutta; but they are not organised so as to be of any educational value. The city of Calcutta, like other great cities, has:—

(*a*) Various commercial centres.
(*b*) Various administrative centres.
(*c*) Banks.
(*d*) Railway and shipping agencies.
(*e*) The Natural History and Geological Surveys.
(*f*) Different types of societies with their peculiar problems.

The University should seek the co-operation of professional experts and make arrangements for special lectures by these experts for acquainting students with:—

(i) present business conditions and opportunities;
(ii) peculiar problems of certain branches of administration, such as municipalities, local boards, corporations, etc.;
(iii) practical problems of the local money market;
(iv) questions of labour, poverty, and relief; and
(v) commercial aspects of the local flora and fauna and mineral resources of the country.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

The following resources exist in Calcutta and its suburbs :—

(*a*) The Imperial Library.
(*b*) The Botanical Gardens.
(*c*) The Zoological Gardens.
(*d*) The Museum.
(*e*) The Calcutta University Library and several other libraries.

The proposed Science College will also be a great educational institution. There are also some workshops, such as those of Messrs. John King and Co., and Messrs. Burn and Co., for training in mechanical engineering, and there are also other places for teaching electrical engineering.

There should be a large number of such institutions. At present, there is no suitable technical institution under the direct control of Government. A large number of such institutions should be established. There should be an Ayurvedic College in Calcutta.

MITRA, RAM CHARAN.

In Calcutta there are a large number of Government and private schools for the imparting of education to qualify our youths for receiving university education, and also a large number of Government and private colleges where students receive education up to the B.A. or B.Sc. standard. If all the schools and colleges be made residential, and be located in some special quarter, suited for the growth of habits, reverence, and friendship, which form the real university atmosphere, and, if the number of teachers in schools and colleges be increased (the teachers being of recognised standing in their subjects), we may have a great centre of learning in Calcutta.

MITTER, Dr. DWARKANATH.

The formation of a great centre of learning providing adequately for the needs of seven millions of people of Bengal must provide for the needs of the most varied character; and Calcutta is not only the greatest city in India—it was till 1912 the political, administrative, and commercial centre of the British Empire in India—and it continues, to the present day, to be the political, administrative, and commercial centre of Bengal.

The collections of the Asiatic Museum, the Imperial Library, the University Library, the University Law College Library, the libraries of the great learned societies like the Asiatic Society of Bengal and the *Bangiya Sahitya Parishad*, the number of special hospitals, and a few scientific laboratories offer splendid resources for advanced work in vast fields of knowledge; and the life of the town—a port, a manufacturing centre, and a commercial administrative and banking centre, with daily relations with every part of the world—offers materials of study to the student of commerce, of administration, of sociology, not to be found elsewhere in India.

To provide adequately for the utilisation of the great resources of Calcutta for post-graduate and other advanced work a twofold organisation is necessary. Firstly, I would suggest that the whole of the training of undergraduates should be given by persons who are extending knowledge, as well as imparting it. Thus, there ought to be

one class of professors training students for degrees, and for the requirements of professional careers, who will, at the same time, be carrying on research work in their own field, and whose laboratories, libraries, etc., will be open to the advanced worker. This class of professor exists in Calcutta, but it is to be regretted that their laboratories are not open to all advanced workers. But in Calcutta there should be another class of chairs, chairs for men required to teach, as well as to investigate—to teach subjects of their own choice, and not merely in accordance with any prescribed curriculum or professional requirement.

The recent introduction of post-graduate studies under the direct control of the University has, to some extent, utilised the existing resources in Calcutta. But I think the imperative duty of a rightly organised Calcutta University is to become the foremost post-graduate centre of the intellectual world of India. It will be by the patient work of post-graduate students, and in their friendly intercourse with professors, that those to whom we look for advancement of science and learning will be trained. There are sufficient resources for training in Calcutta, but these resources are not made available. A rightly organised Calcutta University should expand in this direction.

MITTER, Dr. PROFULLA CHANDRA.

Calcutta possesses considerable resources for the formation of a great centre of learning. The many colleges and learned societies, the libraries and laboratories, the Museum, the Botanical and Zoological Gardens, ought to be more powerful factors in the educational machinery than they are at present. So far, the teaching resources of the city have been organised, to some extent, by the councils of post-graduate studies. More facilities should be offered to students for making fuller use of the institutions; it is perhaps desirable to associate them with the work of the University by making them honorary fellows of the University, or at least by giving them some voice in the management of the affairs of the University.

MUKERJEE, Dr. ADITYANATH.

A substantial step in this direction has already been taken by the creation of a council of post-graduate teaching. The resources available in Calcutta for this purpose would have to be utilised for the provision of :—

(*a*) A spacious building, or groups of buildings, situated in the suburbs.
(*b*) A common library and laboratory well-stocked and well-equipped.
(*c*) An adequate staff of teachers.

The resources of the Calcutta colleges, if organised on a basis of co-operation as suggested in reply to question 2 (*b*), will go far to secure (*b*) and (*c*).

(*a*) is a matter of financial feasibility.

MUKERJEE, RADHAKAMAL.

Calcutta has infinite possibilities of becoming a great and important centre of learning. The resources are to be found in the rich indigenous culture, art, and ethopolity of Bengal which have to be organised by the Calcutta University consciously and deliberately for regional, as well as cultural, progress. The Calcutta University ought to be representative of what Bengal has been in the past, and what she will be in the future, in her literature and religion, philosophy and sciences, her agriculture, crafts, and commerce. At present, the resources are not only neglected, but also wasted. The humanistic philosophy of the Vaishnabs, the Nuddean system of logic and dialectic, the cults and symbolisms of the Tantra, the piety and the domestic sentiment of Bengali folklore, the science of Ayurveda, the handicrafts and industries, which have been far-famed as representing the true and peculiar genius of Bengal have no place in the scheme of univer-

sity life and thought under the present system which does not tend to produce a robust, virile, and vigorous manhood, with pride in past achievements and hope and promise for the future. The University, drawing its inspiration from the diverse channels of communal and cultural endeavour, and feeding and being fed by them, guiding that endeavour for the making of the future, and thus contributing to the progress of Indian civilisation and of universal culture—that would be the real task of the Calcutta University as a centre of learning in India. The expansion and development of the University would lie not in the multiplication of academies and faculties transplanted wholesale with their lists of text-books and books of references from the banks of the Cam and the Isis to the banks of the Pudma and the Bhagirathi, but in a systematic organisation and development of the resources of our indigenous culture and arts for regional and cultural reconstruction; and this without forgetting the educational habits and institutions outside the present educational organisation, which the rich communal instincts and traditions of the race have developed, and till now conserved. In our *tols* and *parishads*, folk-ceremonies and folk-festivals are preserved some of our remarkable communal habits which can well be reorganised in modern schemes of educational endeavour.

MUKHERJEE, B.

I have no experience of what resources of learning other cities possess and so I can not answer this question fully.

I can only say that there ought to be a better and more intimate connection between the different libraries in Calcutta. At present, there is absolutely no connection between the two best libraries in Calcutta, *viz.*, the Imperial and the University Libraries. Some arrangements may also be usefully made whereby the various well-stocked private libraries in Calcutta may be better utilised by professors at least, and, if possible, by students also than at present. The library of the Bengal Chamber of Commerce is a case in point. They very kindly let me use their library for some time for my researches, and I have no doubt, if proper arrangements are made, such facilities might be made more widely available.

MUKHERJEE, JNANENDRANATH.

Calcutta has already a growing educational atmosphere. Being, till lately, the seat of the Government of India, it can boast of a splendid museum, the Botanical and Zoological Gardens, the collections of the Geological Survey, and well-furnished libraries, besides the resources of the University and its affiliated colleges. There are also private organisations to stimulate research in, and study of, particular subjects, such as the *Bangiya Sahitya Parishad*, the Indian school of painting, and the collections of individual gentlemen and families. It is also a great centre of trade, and enjoys the stimulating influence that technical industries and pure science mutually exert to develop a centre of learning.

The resources external to the University should be organised. Thus, teachers and post-graduate students should have free access to the libraries of the Asiatic Society or the Geological Survey. In chemistry and physics we have in the different libraries a fairly complete collection of literature. But few of us have any general access to the different libraries.

Every institution which is affiliated to the University should subscribe to standard current periodicals or the transactions of the important learned societies. They should also possess a complete set of standard reference books.

The University should have its own complete collection of periodicals, both current and back numbers, in all the different subjects and languages available, if this is not financially impossible.

MUKHERJEE, JNANENDRANATH—*contd.*—MUKHERJI, PANCHANANDAS—MUKHOPADHYAYA, Dr. SYAMADAS.

The inauguration of two institutions has become urgent. One is the formation of an Institute on the lines of the Imperial *Reichsanstalt*, the American National Bureau of Standards. The institute should be run under the patronage of Government, but as an integral part of the University. Government should liberally supply it with funds. The institute should be under the guidance of a body of experts consisting of :—

(*a*) The representatives of the different educational institutions who are engaged in research.

(*b*) The representatives of Government departments, *e.g.*, the Geological Survey, Meteorology, Customs, etc.

(*c*) The representatives of the different trades through their associations.

Without such an institute higher research will be unduly hampered and technical research of any standing value will be almost impossible.

The other need is of a central learned society under the patronage of the University. The atmosphere for such a society has already been created and the nuclei for the development of such a society exists. The society should have its own journal.

MUKHERJI, PANCHANANDAS.

Calcutta possesses almost all the resources that are necessary for the formation of a great centre of learning. Its intellectual resources consisting of good teachers (of both oriental and occidental schools) and intelligent students, and its material resources consisting of colleges, libraries, laboratories, museums, gardens (botanical and zoological), hospitals, workshops, etc., are quite sufficient for the efficient teaching of almost all the branches of human knowledge. But these resources are not at present organised and co-ordinated to meet the ends of sound university education. There are some good libraries in Calcutta, but their use is restricted to the few : these libraries should be so organised that they be open to all genuine students. So far as undergraduate teaching is concerned there should be more co-operation between colleges. Hospitals, workshops, banks, and commercial houses should be open to students of medicine, engineering, and commerce, respectively, so that the defects of theoretical training may be removed by coming in contact with actual living conditions.

MUKHOPADHYAYA, Dr. SYAMADAS.

There is more than a sufficiency of intelligent and earnest students and a fair sufficiency of teachers of ability in Calcutta to make it desirable and possible so to widen the scope of the present Calcutta University as to make it a great centre of learning—probably greater than would be possible in any other centre of population in India.

I should suggest an expansion on lines somewhat like the following :—

(*a*) To improve the present colleges in Calcutta and in the mofussil in the matter of staff and equipment.

(*b*) To build more colleges in or near Calcutta and in the mofussil. The new colleges might be built in clusters so as to form nuclei for future universities into which the Calcutta University might split up.

(*c*) To make liberal provision for advanced teaching and research work in the University.

(*d*) To establish a number of up-to-date university libraries available to all students and teachers in the neighbouring colleges.

(*e*) To establish a number of up-to-date university laboratories available to all students and teachers in the neighbouring colleges.

(*f*) To open a technological institute in connection with the University and its laboratories.

(*g*) To provide suitable hostel accommodation for each college, with residential Tutors of experience.

Murarichand College, Sylhet—NAIK, K. G.—NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA—NEOGI, Dr. P.

Murarichand College, Sylhet.

There are some good libraries and laboratories and erudite scholars in Calcutta. These, if properly organised and improved, may make Calcutta a great centre of learning.

NAIK, K. G.

Resources in Calcutta for a great centre of learning:—

(*a*) Laboratories of the various colleges and of the University.

(*b*) The large number of mills and factories, including the Gun Factory, in the proximity. The Bengal Chemical Works, the Waldie Works, etc.

(*c*) The vicinity of the Tata Iron and Steel Works.

(*d*) The various banks, including the various mills, together with the big trade returns of the metropolis—all favouring technical and commercial education.

(*e*) The Botanical Gardens at Sibpur.*

(*f*) The Zoological Gardens.*

(*g*) The various libraries, including the Imperial Library and the University Library.

(*h*) The Museum.

Perhaps Calcutta can stand supreme in point of the various resources for forming a great centre of learning. At present, this organisation, if any, is loose.

The changes suggested will appear in answers to questions 7 and 20.

* Both giving brilliant opportunities for studies in agricultural botany and other allied branches in biological sciences.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

There is no doubt that Calcutta is a very important centre of learning. But as I have no experience as to the organisation of the resources of universities in Europe I am not in a position to make a comparison between the resources as exist in Calcutta and those possessed by universities of comparable size in the West.

Calcutta possesses very many resources which, if properly organised, will serve the purpose of forming a great centre of learning. Calcutta affords to students the advantages of good libraries and laboratories, of healthy co-operation between professors and students, of imbibing ideas of men of great talents working on independent branches of research, of a very good museum, and of the Botanical and the Zoological Gardens. These are surely essentials for the formation of a great centre of learning. Besides the above, Calcutta, being an active centre of commerce, trade, and industry, and having a large number of manufacturing institutions, is alone a fitting place in Bengal where it is possible for students to pursue their studies with best advantage in commerce, technology, and economy. But it is necessary to aim at perfect organisation of these resources. As matters stand at present much will have yet to be done to attain the goal. Manufacturing institutions should be so organised as to afford all sorts of facilities to students of applied science. The Museum, the Botanical Gardens, and the Asiatic Society of Calcutta should be brought into more intimate connection with university work.

As for expansion I would suggest the organisation of the faculties of commerce, agriculture, and technology. Properly equipped workshops and demonstration farms and factories should be established for the development of applied sciences.

NEOGI, Dr. P.

The two questions may be conveniently answered together.

Calcutta is already a great centre of learning and, with the establishment of a fully equipped technological college and a commercial college at Calcutta, its usefulness as a great centre of learning will be enhanced. The greatness of Calcutta as a centre of

earning is often minimised. If all the Calcutta arts colleges, including Government missionary, and private colleges, the Medical College, the Engineering College, the law and science colleges and post-graduate classes, the colleges for women, together with the hundreds of students' hostels and messes, be grouped together in one place, the whole will form a magnificent spectacle to look at. Owing to the fact that they are all scattered the spectacular effect is non-existent, but the moral effect is none the less real. The removal of the University and all the Calcutta colleges to the suburbs may be a counsel of perfection. It may lead to better corporate life, better accommodation and the like, but the cost would be ruinous and not commensurate with the amount of actual gain.

What is wanted, in my humble opinion, to make Calcutta a better centre of learning would be the following :—

(*a*) Improvement of the Calcutta colleges themselves (especially the private colleges) in respect of buildings, hostel accommodation, pay and qualifications of the staff, libraries, and laboratories. *The improvement of the affiliated colleges means the improvement of the affiliating university.*

(*b*) The post-graduate arts classes should be housed in a separate building (on the land adjoining the Senate House on which a market now stands and which has already been acquired) and controlled by a principal, assisted by the present staff. The arrangement of inter-collegiate teaching of post-graduate subjects appears to be good as teaching by the best teachers is ensured.

(*c*) What is really lacking when compared with European universities is the output of research work. The test of the greatness of a university lies in the amount of quality of original work turned out by its members. The Calcutta University happily has lately recognised this and has made admirable beginnings by establishing chairs for research work only. The University should also try to concentrate more research workers from mofussil centres into Calcutta. My suggestions on the subject of research work and workers have been given in my answer to question 16.

PRASAD, Dr. GANESH.

The chief resources which exist in Calcutta and its suburbs for the formation of a great centre of learning may be enumerated as follows :—

(*a*) Institutions under the direct control of the University :—

University College of Law.
University College of Science.
Post-graduate classes in the Senate House.
University Library.

(*b*) Important colleges not under the control of the University :—

Presidency College.
Scottish Churches College.
City College.
Bangabasi College.
Vidyasagar College (late Metropolitan Institution).
Ripon College.
Sanskrit College.
St. Xavier's College.
Medical College, with the hospitals adjoining it, and the Research Institute for Tropical Diseases.
Belgachia Medical College.
Civil Engineering College.

(*c*) The High Court, with a bar strong in quality as well as quantity.

(*d*) The Bose Institute.

The Indian Museum.
The headquarters of the Zoological Survey of India.

The Asiatic Society of Bengal.
The Calcutta Mathematical Society.
The headquarters of the Geological Survey of India.
The Imperial Library.
A large number of commercial and banking institutions.

At present, these resources are not properly and fully organised.

I suggest that, in order to help the formation of a really corporate body of learning at Calcutta, the following changes should soon be introduced :—

(1) (i) All university professors of at least two years' standing, the principal of the University College of Law, and the principals of the eleven colleges mentioned in section (*b*) of this answer, should be *ex-officio* fellows of the University.

(ii) There should be a pro-vice-chancellor of the University who should be elected for one year by, and from among, the *ex-officio* fellows mentioned above, provided that no one should be re-eligible, and the office of pro-vice-chancellor should be held by a principal and a university professor in alternate years.

(2) A college of commerce and technology should be founded at Calcutta.

In view of the fact that the University Library is incomplete, and is not well-housed I suggest that it should be expanded into a library that may not compare very unfavourably with the university libraries of Cambridge and Göttingen, each of which contains over half a million volumes. [Pending this expansion, approved researches should be provided with facilities for the use of the libraries of the Asiatic Society, the Presidency College, the Mathematical Society, and the Geological Survey.]

RAHIM, The Hon'ble Mr. Justice ABDUR.

The resources available in Calcutta are :— a number of colleges, some men answering to the description of teachers described in answer to question 1, laboratories, libraries, museums, the Zoological Gardens, the Botanical Gardens, hospitals, the High Court, works and establishments of a large and progressive commercial and manufacturing town and port, favourable health conditions compared with other places in Bengal, and its situation as a great populous centre.

The resources are not fully organised nor utilised at present. They are dispersed over different parts of the town and are under the control of separate authorities. Further, they are not adequate.

The expansion of the Calcutta University should be on the lines already adopted by it, that is, it should be a teaching, and, as far as possible, a residential, university at the centre, while it should continue for some time to come to discharge the functions of an examining body for colleges situated in the mofussil. Gradually, and as the Calcutta University itself grows, the existence of some of the outlying colleges may become unnecessary, while others may be turned into independent universities. Further, if secondary education be remodelled—and I think it should be—so as to enable secondary schools to absorb the present intermediate classes with the result that a complete course of efficient secondary education ending normally at the age of 18 may be found sufficient for a large number of students, the problem will become much easier of solution. I may here parenthetically observe that a rigid age-limit of 15 or 16 years, which has been laid down for the matriculation, is extremely undesirable as it must necessarily retard boys of more than the average calibre, and it is those boys that should be specially encouraged.

The difficulty in making the Calcutta University a residential and teaching university, in the full sense of the term, even for Calcutta, will lie, I apprehend, in persuading the proprietors of the various aided colleges owned by Christian missions and Indians to join the scheme; but I do not think this should be beyond the power of negotiations. In any event, I would suggest that the Calcutta University should be located in a suitable site in the suburbs of Calcutta. The Presidency College may be removed there

and any other colleges that may be established in the future, including the Muhammadan College, which, I understand, has already been sanctioned, must also be located within the University limits. These colleges should be entirely residential. The university lectures, laboratories, libraries, etc., should be open to students of colleges in the town of Calcutta proper, and the University professors should visit all outside colleges and deliver lectures there as well.

RAY, MANMATHANATH.

The resources existing in Calcutta for the formation of a great centre of learning are not organised to serve the purpose. The Imperial Library, the Museum, the Library of the Asiatic Society of Bengal, and the laboratory of the Indian Association for the Cultivation of Science, etc., are not linked up with the other educational institutions in the country. Recently, an isolated centre for advanced study and research (Sir J. C. Bose's Institute) has been founded, and Government should not have agreed to finance this institute without insisting upon some sort of connection between the institute and the University College of Science. United resources cannot but be beneficial to both the institutions which are yet in their infancy. It becomes impracticable, and sometimes impossible, for students in other educational institutions to derive any benefit from these centres. It is extremely necessary that all these different centres should be linked up with each other.

RAY, Dr. P. C.

Calcutta is perhaps the only centre of learning and intellectual activity in northern India. Here we have a legal profession which has attracted some of the best intellects of the land. In connection with the scientific departments we have ready at hand a number of experts. Calcutta is the second (?) city in the British Empire and the seat of some eight first-grade colleges. All these conspire to yield us a galaxy of brilliant men. I do not think, outside Japan, any other city in Asia can boast of such men.

Unfortunately, these literary and scientific talents have not been organised, or rather "mobilised", so as to yield the best results.

A great many industrial and manufacturing concerns are located in and about Calcutta. Arrangements should be made between the University and the owners of these concerns to allow students to study them. It may be mentioned, for example, that students of chemistry from different colleges make it a point of visiting the Bengal Chemical and Pharmaceutical Works and thus get a vivid idea as to how chemical processes on an industrial scale are carried on. There are many organisations in Calcutta, in connection with which lectures are delivered by distinguished men, Indian and foreign, and thousands of students are attracted to hear them.

RAY, Rajah PRAMADA NATH.

The resources which exist in Calcutta for the formation of a great centre of learning are:—

(*a*) Public libraries.
(*b*) Zoological Gardens,

RAY, Rajah PRAMADA NATH—*contd.*—RAY, SARAT CHANDRA—RAY, SATIS CHANDRA—ROY, The Hon'ble Babu SURENDRA NATH.

(*c*) Botanical Gardens.
(*d*) Learned societies such as the Asiatic Society, the Astronomical Society, and the Society for the Cultivation of Science, etc.
(*e*) Botanical Gardens.

RAY, SARAT CHANDRA.

The following are the resources:—

(*a*) Palit Trust.
(*b*) Ghose Trust.
(*c*) Bose Laboratory.
(*d*) Indian Association for the Cultivation of Science Laboratory.
(*e*) St. Xavier's College Science Laboratory.
(*f*) Calcutta Imperial Library.
(*g*) Bengal Chemical Works.
(*h*) Technological Works.
(*i*) Meteorological Observatory.
(*j*) Asiatic Museum.
(*k*) Several great hospitals.
(*l*) Sibpur Civil Engineering College Laboratory and Workshops, etc.

At present, these resources are not organised, but they may be organised under proper Government supervision and control.

The last portion of this question is too wide to be properly dealt with here.

RAY, SATIS CHANDRA.

The existing resources in Calcutta and its immediate neighbourhood that can be utilised for the service of the University are:—

(*a*) The trade and commerce of Calcutta, with its large exchange banks.
(*b*) The Museum.
(*c*) The Zoological Gardens.
(*d*) The Botanical Gardens at Sibpur.
(*e*) Large expanses of cultivable lands in the vicinity of the town for agricultural purposes.
(*f*) Government records in the Collectorate and the Central Office.
(*g*) The books and manuscripts in the Asiatic Society.
(*h*) Railways and railway workshops and the iron industries.
(*i*) The Calcutta Arts School.
(*j*) The heterogeneous population of the city in various degrees of economic condition and social structure and habits, for study in sociology.

These resources are not fully organised to serve the purpose of the University, but they might be so organised.

ROY, The Hon'ble Babu SURENDRA NATH.

Calcutta being the capital of the presidency, and being a trade centre, and having connection by many railway lines and also by steamers with the different parts of the presidency, may well form a great centre of learning. Moreover, people who can afford to pay for the tuition of their boys are in Calcutta or come to Calcutta. All these boys can, and do, take, as far as possible, to university education.

SAHA, MEGHNAD—SARKAR, BEJOY KUMAR.

SAHA, MEGHNAD.

Besides the libraries and laboratories which are under the direct control of the University and its constituent colleges we have at Calcutta the following institutions which may render great services to the cause of university education :—

(*a*) The Asiatic Society of Bengal :—its library contains a good collection of valuable ancient manuscripts and rare books which will be extremely useful to those interested in ancient history, archæology, and comparative philology. It has also a good collection of journals of learned societies which, pending the organisation of the departmental libraries of the University, will be of great help to research workers.

(*b*) The Indian Museum.

(*c*) The Geological Survey Department of the Indian Museum :—its collection of journals is probably the best in Calcutta.

(*d*) The Imperial Library.

(*e*) The Indian Association for the Advancement of Scientific Education, Bow Bazar.

(*f*) The *Bangiya Shahitya Parishad*, Upper Circular Road.

(*g*) The Zoological Gardens, Alipur.

(*h*) The Botanical Gardens, Sibpur.

At the present time, the resources of these institutions are not accessible to teachers and students of the University. It will be of great help to the cause of university education if the Commission appoints a committee to take stock of the resources of these institutions, and determines the best means of rendering them easily accessible to teachers and students alike.

I also urge here the establishment, at an early date, of institutions of the type of the Bureau of Standards, Washington, United States of America, *Die Kaiserliche Reichsanstalt*, Berlin, and the National Physical Laboratory, England. The function of these institutions is primarily to undertake research work in scientific subjects for the welfare of the country, and to standardise instruments and apparatus for the use of those who are engaged in research work either in purely scientific or industrial enterprises. It is a significant sign of the times that the importance of adapting the lessons of science to problems of national welfare is gradually dawning upon peoples of all nationalities. I read only the other day in "Nature" that an institution of this type, a Central Bureau of Research, is being established in Japan, for which the Imperial Household has made a donation of £100,000 ; the people have subscribed £200,000 ; and the Imperial Parliament has decreed a grant of £200,000 to be paid in ten years. The lesson ought not to be lost upon the people of India. The Commission should strongly advise Government upon the necessity of establishing such an institution, and locating it at Calcutta, for Calcutta is the biggest centre of learning in India and is, at the same time, the biggest centre of trade and industry. If this step be taken the co-operation between pure research and industrial development, which is so essential for national welfare, can be easily achieved, and university men can take a large part in the activities of the institution.

SARKAR, BEJOY KUMAR.

Almost all.

These resources are not, however, organised to serve the purpose of education.

The sympathy of the firms, the factories, the railways, the banks, the museums, the municipality, etc., has to be enlisted and their co-operation sought. The University ought to come into direct contact with the real world. This may be done in the following ways :—

(*a*) The sympathy and co-operation of the various departments of life may be enlisted by appointing their senior members to certain departmental committees of the University.

(*b*) Special lectures by capable professional men may be organised from time to time for the benefit of the University.

(*c*) Arrangements may be made, and facilities created, for students and teachers to visit private institutions, if necessary, with the help of experts.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

The Presidency College, with its well-equipped library and laboratory, the Indian Association for the Cultivation of Science, the Asiatic Society of Bengal, the Indian Museum, and the Imperial Library are among the institutions which contain material which may be utilised for the formation of a great centre of learning.

SATIAR, RADHIKA LAL.

Calcutta, the metropolis of Bengal, is peculiarly suited to be a centre of learning in the province. In fact, it is the only city in Bengal, which, under present circumstances, has the necessary requirements for the purpose. For instance, out of Calcutta we cannot have the advantages of the Museum, the Zoological Gardens, the Botanical Gardens, the Public Library, and the elaborate laboratories of the different institutions, not to mention the able assistance of renowned experts in different branches of learning —able lawyers, renowned scientists, and distinguished physicians. By the gradual process of extension and acquisition the portion of the city now occupied by the leading educational institutions (College Street and the neighbourhood) may be converted into an isolated university town separated from the tempting unwholesome influence and sordid atmosphere of the great city.

SEAL, Dr. BRAJENDRANATH.

The third port in the British Empire and the ninth city in the world must have developed certain resources (and machinery) of civilisation, which necessarily provide a characteristic *milieu* and environment for carrying on the work of conserving, improving, and transmitting the tradition of that civilisation from generation to generation, which is the business of education. Besides every cultural zone or region has a characteristic distribution of its own, and Calcutta, being the centre of such a region, has certain capabilities, certain raw materials, as it were, of culture, which it is the business of her educational system to organise for the service of the people and the world at large.

Leaving these generalities and coming to particulars: we have a fairly intelligent stock of people, with a mixed physical and cultural radicle, and, therefore, *somewhat* unstable and prone to vary in certain directions—hence an educable race. We have also a lofty tradition of letters and learning among the gentry (the *bhadralog*), especially in logic and belles-lettres, law, and medicine—not yet dead, though moribund—in the *tols* and 'madrassans' seats of indigenous learning, which, fifteen or twenty years ago, were attended by four times as many students as sought entrance into the university. We have fairly good material on which to draw for the supply of devoted and capable teachers of higher learning provided the economic conditions of the profession are not unduly hard or depressing. Then, as regards the material equipments of culture, our laboratories, physical as well as biological, our museums of archæology and of geological and economic exhibits, the Zoological and Botanical Gardens (among the largest in the

world), are not unworthy of the metropolis of the middle East. And, to speak of the outlying zone which must be linked up with the centre in any scheme of organisation, our experimental agricultural farms in the districts are at last making a good beginning, agricultural as well as cultural. The railway and other workshops and the mines are training *mistris*, foremen, assistants, to supply their own needs. And if our banks and commercial firms, our jute mills and factories, our collieries and tea gardens in the interior, and our railway workshops, earning (and deserving by their services to earn) middlemen's profits and cumulative capitalists' profits on the strength of the teeming labour of the Bengal peasantry and artisans, and the Bengal intellectuals, should, in many cases, yet refuse to serve the cause of the *higher grade technological education* of the children of the soil, we can afford to wait for a return of good sense and of the filial piety which pays the family debt and, in the meantime, make what headway we can by our own unaided groping, without sitting in the waste, refusing to till a lonely furrow!

A committee of the Senate, of which I was a member, recently submitted a scheme of commercial, agricultural and technological education in the University, to which I may be pardoned for referring in this connection. The essential points are:—

(*a*) There should be facultative studies of the university grade led up to by a suitable course of general liberal education, preferably on a mixed basis of linguistic and 'real' studies.

(*b*) The first two years' course (in the 'intermediate' stage) should comprise the preliminary scientific, mathematical, and linguistic subjects that are necessary for expert technological and commercial training.

(*c*) This should be followed by one year's special (technical) training in the case of those who want a diploma for the subordinate ranks of their profession, while for those who go on and take the bachelor's degree the first two years' preliminary course will be followed by a three years' course of higher technological studies, theoretical as well as practical.

It is provided that, both for a diploma and a degree, there will be practical training and apprenticeship in farms, factories, and commercial houses, extending over a year and a half at least, either concurrently throughout, or, in some of the subjects, in the latter part of the course. It is essential for success that the University should be the body undertaking to popularise technical education of the higher grade in this country, but the faculties of commerce, agriculture, and technology should be so constituted as to contain a large element of practical business men and experts possessing the requisite sympathy and helpfulness. A university, if it is to be a centre of universal learning, in the modern sense, must comprise these departments of technology and applied science. And it is to be hoped that the Bengal Technical Institute, under independent management, will grow into a polytechnic institute for the working classes, or the industrial middle classes. There will be room for each type.

As in all centres of population we have in the city a rich storehouse of anthropological material, which should be utilised for training in the psycho-social sciences and arts of life, *e.g.*, infirmaries for the blind, the deaf, and dumb; juvenile reformatories, jails and police courts, markets, festivals, and fairs; and, indeed, schools and colleges themselves (for experimental and statistical study).

Among the necessary expansions are those relating to the provision of educational facilities, partly within the University and partly outside, for Indian women of different social traditions and functional classes. In the ordinary university course women may be given the *option* of additional courses in literature, fine arts, hygiene, or advanced domestic economy and domestic science, in lieu of certain subjects in the regular curriculum. But there must also be a movement of university extension for women, a sort of Woman's University, with a system of external examinations conducted through the medium of the vernacular, or a continuation school, if you please, building on the basis of the middle vernacular and secondary education, in which an increasingly large (or increasing) number of girls participates. Besides, in a country like India, there should be

special facilities granted to women for learning the professions of teaching and medicine (if not also law), and for being trained in child-welfare work, and in practical sociology with special reference to hygiene and sanitation, infant mortality and infant rearing, and, shortly as the stars go their round, the problems of temperance and purity, of the slum population, and, in the end, let us hope, of administrative work on the school boards and local self-government Boards.

Some of the richest finds await the Indian prospector in experimental race psychology (with experimental study of Indian schoolchildren), Indian criminology, comparative anthropology (for which India is a living museum, the richest in the world), and, above all, the sciences of comparative economics, comparative jurisprudence and comparative sociology, all summed up in the generalisations of that new *Summa Philosophiæ*, the sovereign science of comparative philosophy! Chairs for these studies ought to be established in the Calcutta University.

A School of Tropical Medicine (with tropical therapeutics) is a vital necessity; not merely a school of tropical diseases or tropical materia medica, but of therapeutics in relation to the actualities of Indian environment, hygienic, as well as morbific, and of the Indian constitution as acted upon by that environment. For at this day we cannot afford to lose sight of the relativity of the medical art. Such a school as the one here proposed will be in a position also to undertake scientific tests and provings of the empirical recipes of the indigenous traditions, both *Kaviraji* and *Unani*.

Under this head I will note three developments which are badly needed in the city for her (fractionally) educated and uneducated proletariat:—

(i) A University extension movement, with regular courses of evening lectures and continuation classes, especially in civic and social subjects, and in applied science, followed by examinations, certificates, and prizes.

(ii) A University mission to the working classes in the city (and suburbs), using the vernacular and the lantern (or cinema) as 'enlighteners' and working in co-operation with the Ram Mohan Library, the *Sahitya Parishad*, and the Indian Association for the Cultivation of Science.

(iii) A simpler and more educative organisation and classification of the exhibits in our museums and our collections of flora and fauna, with paid guides and interpreters; also a co-ordination of these institutions with one another, and with the University for purposes of popular education.

The tentative efforts in this direction will have to be resumed with better co-operation of schools and other public institutions.

SEN, BIPINBEHARI.

Resources in men and public institutions of an educational character are not wanting in this city. What is wanting is an organisation to make it a great centre of learning. We have the Library of the Asiatic Society, with the Museum attached to it, the Zoological Gardens, the Botanical Gardens, the Imperial Library, the Association for the Cultivation of Science Laboratory, the Laboratory of the Calcutta Municipality, the Library and Laboratory, the University Library and Laboratory, Dr. Bose's Research Institute, the Presidency College, *Sahitya Parishad*, and several other public and private institutions of a literary and scientific character.

If the honours courses of study are taken in hand by the University there may not be any need for the existence of the Presidency College for the teaching of the pass B.A. and intermediate courses of study at an enormous cost. In that case, the buildings, the library, and the laboratories of that institution may be utilised by the University for the teaching of honours and post-graduate students so as to combine economy with efficiency.

SEN GUPTA, DR. NARENDRANATH—Serampore College, Serampore—SHARP, The Hon'ble Mr. H.

SEN GUPTA, DR. NARENDRANATH.

Calcutta offers resources that almost all the great cities of the world offer. These however, have not been properly organised for the purpose of education.

(*a*) In the first place, the different colleges are not on a co-operative basis. I have mentioned the case of library-building. The same thing holds true about laboratories. Research work would be considerably facilitated if the colleges co-operate.

(*b*) The different non-academical organisations have not been marshalled by the University.

(i) The department of zoology might, with convenience, be situated in the Zoological Gardens if the gardens be placed at the disposal of the University.

(*b*) the Museum could accommodate the departments of Metallurgy and Archæology.

(*c*) The banks, Government and private, could easily supply lecturers for commercial courses and courses for economics. They might as well serve as the training-ground for commercial students.

(*d*) The different workshops and factories may easily co-operate with the University and help it to train engineers and foremen.

(*e*) The different socio-moral societies may help to expand the activities of the University.

Serampore College, Serampore.

It would be very difficult, under present conditions, to organise all the available resources for the formation of a great centre of learning in Calcutta. If the time should come when all or several of the colleges are removed from their present sites and located in a common area it would be possible to organise their resources so as to allow even the pass work to be done on a joint basis. Otherwise, the combined work must be limited to the B.A. honours and the M.A. on the assumption that the B.A. honours is separated from the pass course, a very desirable expansion, in our judgment, in the interests of thoroughness and the highest efficiency. If the separate honours courses are to be on sound lines students taking up such courses would require far more thorough preparation than is assumed in the ordinary matriculation course. The better equipped schools could be encouraged to do advanced work, beyond the matriculation stage, with this object in view.

SHARP, The Hon'ble Mr. H.

The city of Calcutta contains fourteen arts colleges, four training colleges or classes, two law colleges, two medical colleges and an engineering college. These are all affiliated to the University. Their students, together with the students in the university post-graduate classes, aggregate some 14,000.

Among higher educational institutions, not affiliated are the Bengal Technical Institute, the Government Commercial School, and the School of Art.

Among other institutions, which are not strictly educational but which offer facilities for educational activity, such as libraries, specialists, etc., may be mentioned the Imperial Library, the Indian Museum, the Asiatic Society of Bengal, with its library, the Geological Survey, the Survey of India, the Botanical Gardens, and the Botanical Survey, with its library, the Zoological Gardens, and the recently established Bose Research Institute.

Thus there exist considerable facilities for study.

The institutions affiliated to the University are bound together by the loose ties of affiliation. There has recently been a move in favour of the greater concentration of post-graduate (*i.e.*, M.A. and M.Sc.) studies. The scheme has been brought into

SHARP, The Hon'ble Mr. H.—*contd.*—SHASTRI, PASHUPATINATH—SINHA, ANANDAKRISHNA—SINHA, Kumar MANINDRA CHANDRA—SINHA, PANCHANAN.

operation notwithstanding strong criticism from many of the best educationists in the Senate. It is feared that it will react adversely upon colleges and that the materials and guarantees for the maintenance of the standard are insufficient. It undoubtedly creates an *imperium in imperio* and ignores one of the fundamental canons laid down by the Royal Commission on University Education in London.

The connection of the University with the other institutions mentioned is very slight.

I consider that if a local University of Calcutta is established it may be possible to enlist the co-operation of these other institutions. Such co-operation would greatly add to the strength of the academic body, would open up to the students fresh vistas of activity, and would do much to vivify and lend interest to the courses. Representatives of these institutions or departments would occupy an important place upon the academic body and assist by their expert advice and by organising lectures and local tours of inspection for students of biology, geology, industrial and commercial subjects, archæology, and art.

The subject is further treated in my answer to question 6.

SHASTRI, PASHUPATINATH.

In Calcutta all the three resources—men, money, and appliances—are abundantly available. Calcutta is also one of the healthy places in Bengal. Hence, it is easy to form a great centre of learning in Calcutta. But it is not desirable that an unlimited number of students should be huddled into colleges and schools, as is done at present. Colleges and schools should be forced to take a much smaller number of students, and the number of colleges and schools should be increased.

SINHA, ANANDAKRISHNA.

The resources that exist in Calcutta are:—

(*a*) Indian Museum.
(*b*) Zoological Gardens.
(*c*) Botanical Gardens.
(*d*) Imperial Library.
(*e*) *Sahitya Parishad.*
(*f*) Dr. Bose's Institute.
(*g*) Asiatic Society of Bengal.

They are properly organised, but in a city like Calcutta with one of the biggest student population of the world their number is quite insufficient. The establishment of a National Museum as recently proposed by the *Sahitya Parishad* and the foundation of a good library in the northern quarter of the town will go a great way to help the advancement of learning.

SINHA, Kumar MANINDRA CHANDRA.

There are many resources in Calcutta which may be utilised to this end, the best resources being in the hands of Government. If any expansion be made in the University of Calcutta such expansion should be located in the southern suburbs of Calcutta, which should afford room for future development.

SINHA, PANCHANAN.

The resources existing in Calcutta for the formation of a great centre of learning are many and various. It is the strongest intellectual centre in Bengal, if not in India. It is also the strongest commercial centre, and no mean industrial centre as well. As

it is the capital of Bengal and was for a long time the capital of India many useful educative institutions have grown up in and around it. I mean the libraries and museums, the Zoological and the Botanical Gardens, the banks, mills, and factories, etc.

These resources are not at all adequately organised.

Faculties of commerce and industry should at once be added to the University, and the scope of the faculty of medicine should be enlarged so as to include the Ayurvedic, Homœopathic, and Hakimi systems.

SIRCAR, The Hon'ble Sir NILRATAN.

I may mention, amongst others, the following resources for the formation of a great centre of learning in Calcutta :—

(*a*) A large number of well-educated, competent, energetic, and painstaking intellectual men have adopted teaching as their profession. Their services are available.

(*b*) A very large class of students assembles in Calcutta for the purpose of seeking university education. Many of them are inhabitants of this city.

Calcutta is the largest seat of commerce in Asia, and her commercial resources are vast.

In and around Calcutta there are a large number of factories. There are also two big electrical, and many mechanical, workshops in this city and its vicinity.

There are six civil hospitals in which about 25,000 patients are accommodated.

There is the Asiatic Society's Museum which possesses the finest collections in the zoological, geological, and archæological departments.

Further, there are the departments of zoological and archæological and botanical Survey that are engaged in high-class research work.

The Asiatic Society is the foremost scientific society in Asia.

There are the Botanical Gardens in Howrah and the Zoological Gardens at Alipur.

Besides these there are the public libraries, the Meteorological Laboratory, the Sanitary Commissioner's Laboratory.

The municipal organisation of Calcutta in its different departments present, to the student, a considerable number of interesting questions for solution. Many of these have to be approached from the economical, sociological, ethnological, biological, sanitary, political, legal, or engineering points of view.

Calcutta is the centre of development of a new school of art, namely, the Oriental School.

Calcutta is the nursery for the vigorous growth of the foremost of Indian vernacular languages in connection with which the *Sahitya Parishad* has set on foot an actual vernacular movement.

Many of these resources may, when organised, be fully utilised for the purposes of the university training of our students.

But, up to this time, very little attempt has been made in this direction.

SMITH, W. OWSTON.

In Calcutta there are many men of real learning and great ability. There are also many men of great wealth. There is a large community, educated and half educated. There are tens of thousands of boys in schools who might, if better trained, make good students. Many of them are intelligent and willing to learn.

These resources are not well organised at present. The following are the chief defects :—

(*a*) The attempt to deal with thousands when there is not adequate material for educating hundreds.

(*b*) Beginning at the top, instead of at the bottom, *i.e.*, with colleges, research, post-graduate instruction and such things when there are hardly any good schools sufficiently equipped.

(*c*) A strife between conflicting ideals in the governing bodies of the University, as well as mere personal clash of interests.

(*d*) The idea in the minds of rich Indians, and in fact of most parents, that education ought to be cheap, and that it is the business of Government to provide it semi-free.

(*e*) The idea in the minds of most parents and students that success in examinations is everything, and that a degree or certificate, no matter how obtained, is more valuable than an education.

(*f*) Indifference to education on the part of Government which naturally regards it from a political or administrative point of view.

(*g*) The admission to colleges of a large number of students whose mental equipment and knowledge of English are not sufficient to enable them to understand lectures.

(*h*) Frequent changes in the teaching staffs of colleges.

(*i*) The contempt felt by the general public and by officials for teachers, especially for schoolmasters.

VACHASPATI, SITI KANTHA.

The resources are, among others, the residence of many eminent scholars, literary men, philosophers, scientists, religious reformers, etc., the existence of societies like the Asiatic Society of Bengal, the Imperial Library, the Indian Museum, the Commercial Museum, the office of the Geological Survey of India, the Indian Art School, the Botanical and Zoological Gardens, the Sanskrit College Library, public libraries, literary clubs, Medical College, etc.

But these resources are not at present sufficiently utilised for the purposes of university education. These institutions should be made more accessible to students of the University and should be manned by educational experts so that students may get material help from them.

WAHEED, Shams-ul-Ulama ABU NASR.

More resources exist in Calcutta than in Bombay or Madras or any other city in India, but not sufficient for the formation of a great centre of learning according to modern ideas and under the present conditions and constitution of the University. Efforts have been made to organise them, but only to serve a limited purpose. Even in the case of a single institution like the Presidency College it was thought necessary by the Government of Bengal, in the time of Sir Edward Baker, to remove it to an accessible site in the suburbs for the purpose of its expansion and development. As I understand, Sir Asutosh Mookerjee was strongly in favour of removing all the colleges to an accessible site in the suburbs (leaving only one college in the city to serve local needs) in order to form a great centre of learning capable of expansion, and create an academic atmosphere favourable to the growth of a true university life and removed from the distractions and temptations of a city like Calcutta. At that time the price of a *katta* of land in the suburbs was Rs. 50. At present it is Rs. 200.

I am strongly in favour of the above proposal. The colleges should be all removed to an accessible site in the suburbs and assimilated in a teaching and residential university of the mono-college type. The present University and college buildings can be easily and most profitably disposed of to solve, to a great extent, the financial question. A *katta* of land in the suburbs costs Rs. 200, as against Rs. 5,000 in the city, and the existing buildings will fetch a large sum.

WORDSWORTH, The Hon'ble Mr. W. C.

The various colleges, the various libraries, including the University Library, the Library of the Asiatic Society of Bengal, and the Imperial Library; the Indian Museum and the Museum of the Geological Survey; the Indian Institute of Science.

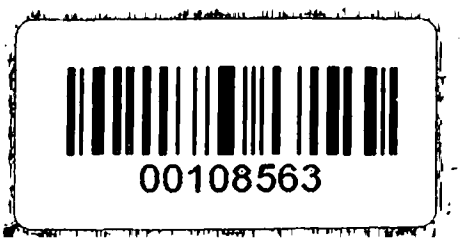
There is considerable organisation:—

(*a*) the colleges are connected by affiliation to the University, and attempts have been made to establish inter-collegiate teaching, *e.g.*, students of the Sanskrit and St. Paul's Colleges are admitted to honours lectures at the Presidency College.

(*b*) Students are welcomed in the museums and the libraries.

(*c*) The Association for the Cultivation of Science accepts for science subjects students of colleges not affiliated in these subjects

(*d*) The recently-initiated post-graduate scheme was based upon the expectation that the full available resources of the University and the Calcutta colleges would be utilised for post-graduate teaching.


00108563

CALCUTTA: PRINTED BY SUPDT. GOVT. PRINTING, INDIA, 8, HASTINGS STREET.

Digitized with financial assistance from

Government of Maharashtra

on 01 February, 2020